SUPPLEMENT

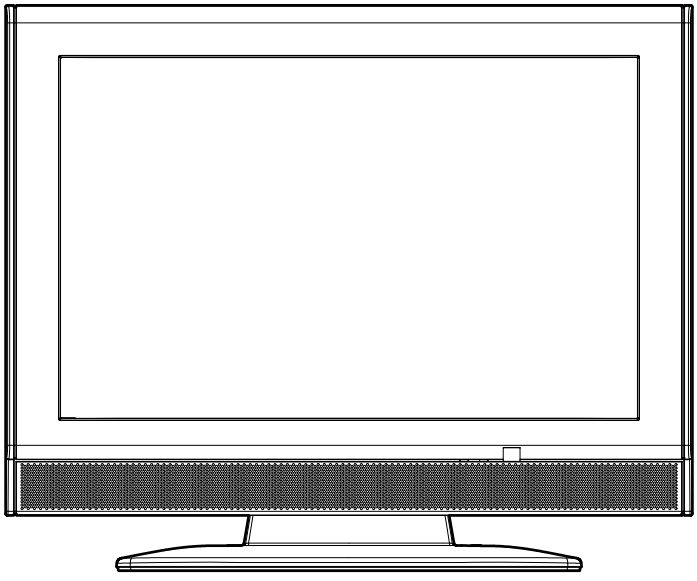
EMERSON AND THE G-CLEF LOGO ARE REGISTERED TRADEMARKS
OF EMERSON RADIO CORP., PARSIPPANY, NEW JERSEY, U.S.A.

SERVICE MANUAL

This service manual shows only the differences between the SLC195EM8 2 and the original model SLC195EM8. All other information is described in the service manual of the model SLC195EM8.

19″ COLOR LCD TELEVISION

SLC195EM8 2



Different parts from the original model (SLC195EM8)

Ref. No.	Description	Parts No.
MECHANICAL PARTS		
A6⚠	RATING LABEL A81N8UH	----------
LCD1	LCD MODULE 19INCH WIDE CMO 19INCH WXGA	UG190XA
ELECTRICAL PARTS		
	MMA CBA	1ESA16270
	MAIN CBA	----------
D926	ZENER DIODE MTZJT-776.8B	QDTB0MTZJ6R8
R1015	CARBON RES. 1/4W J 3.3K OHM	RCX4JATZ0332
R1025	CARBON RES. 1/4W J 3.3K OHM	RCX4JATZ0332

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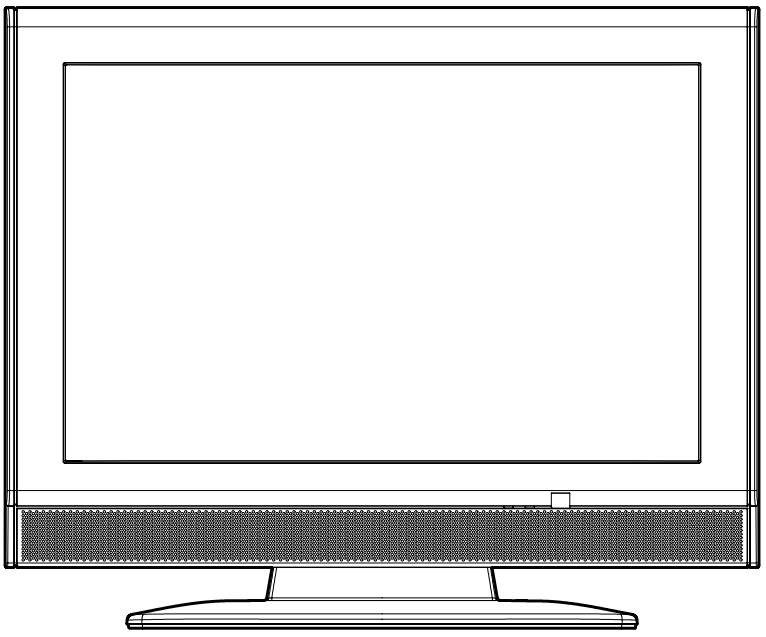
SERVICE MANUAL

19″ COLOR LCD TELEVISION

SLC195EM8



IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Funai Equipment. The service procedures recommended by Funai and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.

It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Funai could not possibly know, evaluate and advice the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Funai has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Funai must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

TABLE OF CONTENTS

Specifications 1-1
Important Safety Precautions 2-1
Standard Notes for Servicing 3-1
Cabinet Disassembly Instructions 4-1
Electrical Adjustment Instructions 5-1
How to initialize the LCD Television 6-1
Block Diagrams 7-1
Schematic Diagrams / CBA's and Test Points 8-1
Waveforms 9-1
Wiring Diagram 10-1
Exploded Views 11-1
Mechanical Parts List 12-1
Electrical Parts List 13-1

The LCD panel is manufactured to provide many years of useful life. Occasionally a few non active pixels may appear as a tiny spec of color. This is not to be considered a defect in the LCD screen.

SPECIFICATIONS

< TUNER / NTSC >

ANT. Input ---------- 75 ohm Unbal., F type

Description	Condition	Unit	Nominal	Limit
1. AFT Pull-In Range	---	MHz	±2.3	±2.1
2. Syncronizing Sens.	TV.ch.4 CA.ch.31 CA.ch.87	dBμ dBμ dBμ	--- --- ---	20 20 23

< TUNER / ATSC >

Description	Condition	Unit	Nominal	Limit
1. Received Freq. Range (-28dBm)	---	kHz	---	±100
2. ATSC Dynamic Range (min / max)	ch.4 ch.10 ch.41	dBm dBm dBm	--- --- ---	-76/0 -76/0 -74/+4

< LCD PANEL >

Description	Condition	Unit	Nominal	Limit
1. Native Pixel Resolusion	Horizontal Vertical	pixels pixels	1440 900	--- ---
2. Brightness (w / filter)	---	cd/m^2	250	---
3. Viewing Angle	Horizontal Vertical	° °	--- ---	-75 to 75 -70 to 70

< VIDEO >

Description	Condition	Unit	Nominal	Limit
1. Over Scan	Horizontal Vertical	% %	5 5	--- ---
2. Color Temperature	--- x y	°K	11000 0.279 0.272	--- ±5% ±5%
3. Resolution (composite video)	Horizontal Vertical	line line	400 350	--- ---

< AUDIO >

All items are measured across 8 Ω load at speaker output terminal with L.P.F. / Video1 Input.

Description	Condition	Unit	Nominal	Limit
1. Audio Output Power	10% THD: Lch/Rch	W	1.0/1.0	0.9/0.9
2. Audio Distortion	500mW: Lch/Rch	%	0.5/0.5	2.0/2.0
3. Audio Freq. Response (NTSC)	–6dB: Lch –6dB: Rch	Hz Hz	100 to 11 k 100 to 11 k	--- ---

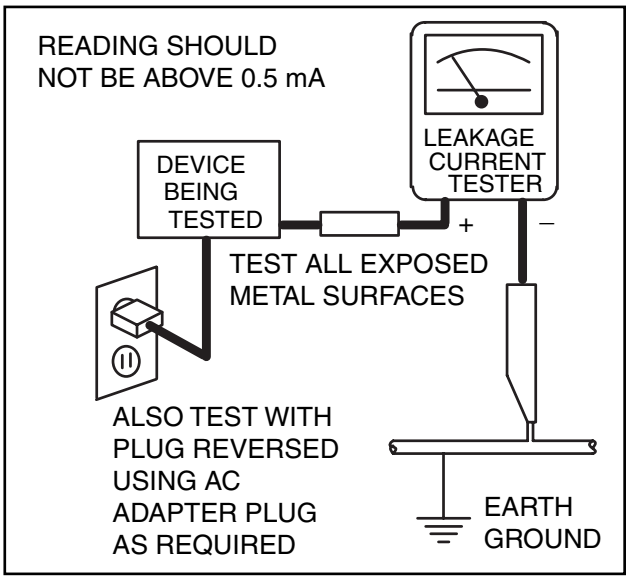
Note: Nominal specifications represent the design specifications. All units should be able to approximate these. Some will exceed and some may drop slightly below these specifications. Limit specifications represent the absolute worst condition that still might be considered acceptable. In no case should a unit fail to meet limit specifications.

IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, our products are strictly inspected for recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Safety Precautions for LCD TV Circuit

1. **Before returning an instrument to the customer,** always make a safety check of the entire instrument, including, but not limited to, the following items:
   - **a.** Be sure that no built-in protective devices are defective and have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**
   - **b.** Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, (1) spacing between the Liquid Crystal Panel and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.
   - **c. Antenna Cold Check -** With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohm or greater than 5.2 megohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.
   - **d. Leakage Current Hot Check -** With the instrument completely reassembled, plug the AC line cord directly into a 120 V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milli-ampere. Reverse the instrument power cord plug in the outlet and repeat the test.



ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the Liquid Crystal Panel.

3. **Design Alteration Warning -** Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.
4. **Hot Chassis Warning -**
   a. Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and maybe safety-serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter, measure between the chassis and a known earth ground. If a voltage reading in excess of 1.0 V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground.
   b. Some TV receiver chassis normally have 85V AC(RMS) between chassis and earth ground regardless of the AC plug polarity. This chassis can be safety-serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection.
   c. Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulation material that must not be defeated or altered.
5. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: a. near sharp edges, b. near thermally hot parts-be sure that leads and components do not touch thermally hot parts, c. the AC supply, d. high voltage, and, e. antenna wiring. Always inspect in all areas for pinched, out of place, or frayed wiring. Check AC power cord for damage.
6. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.
7. **Product Safety Notice -** Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by a ⚠ on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The product's safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are strictly inspected to confirm they comply with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Precautions during Servicing

A. Parts identified by the ⚠ symbol are critical for safety.
Replace only with part number specified.

B. In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.
Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.

C. Use specified internal wiring. Note especially:

1) Wires covered with PVC tubing
2) Double insulated wires
3) High voltage leads

D. Use specified insulating materials for hazardous live parts. Note especially:

1) Insulation Tape
2) PVC tubing
3) Spacers
4) Insulators for transistors.

E. When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.

F. Observe that the wires do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.)

G. Check that replaced wires do not contact sharp edged or pointed parts.

H. When a power cord has been replaced, check that 5~6 kg of force in any direction will not loosen it.

I. Also check areas surrounding repaired locations.

J. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

K. When connecting or disconnecting the internal connectors, first, disconnect the AC plug from the AC supply outlet.

L. When installing parts or assembling the cabinet parts, be sure to use the proper screws and tighten certainly.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1: Ratings for selected area

AC Line Voltage	Region	Clearance Distance (d), (d')
110 to 130 V	U.S.A. or Canada	≥ 3.2 mm (0.126 inches)

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

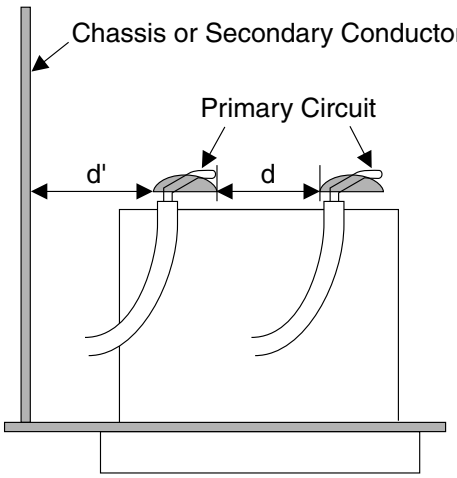


Fig. 1

2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.) is lower than or equal to the specified value in the table below.

Measuring Method: (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig. 2 and following table.

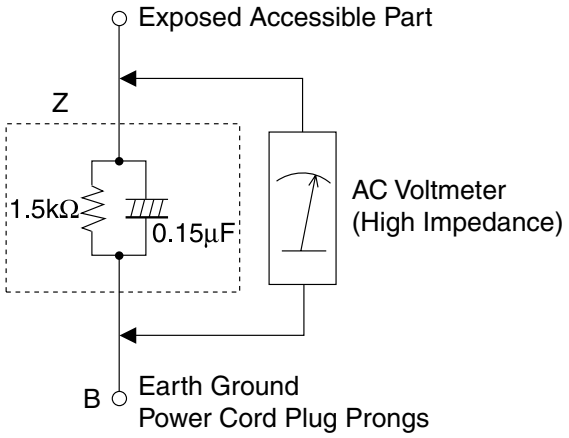


Fig. 2

Table 2: Leakage current ratings for selected areas

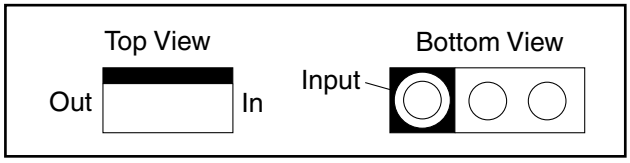
AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
110 to 130 V	U.S.A. or Canada	0.15 μF CAP. & 1.5 kΩ RES. Connected in parallel	i ≤ 0.5 mA rms	Exposed accessible parts

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

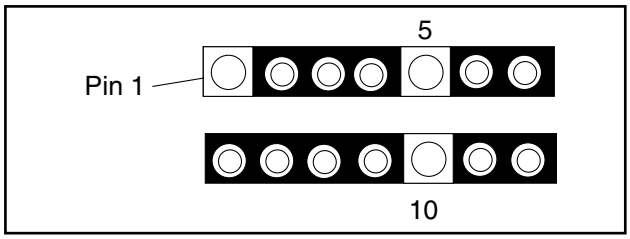
STANDARD NOTES FOR SERVICING

Circuit Board Indications

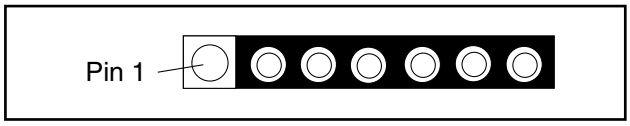
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



2. For other ICs, pin 1 and every fifth pin are indicated as shown.

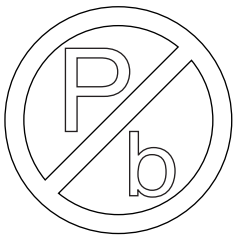


3. The 1st pin of every male connector is indicated as shown.



Pb (Lead) Free Solder

Pb free mark will be found on PCBs which use Pb free solder. (Refer to figure.) For PCBs with Pb free mark, be sure to use Pb free solder. For PCBs without Pb free mark, use standard solder.



Pb free mark

How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:

1. Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)

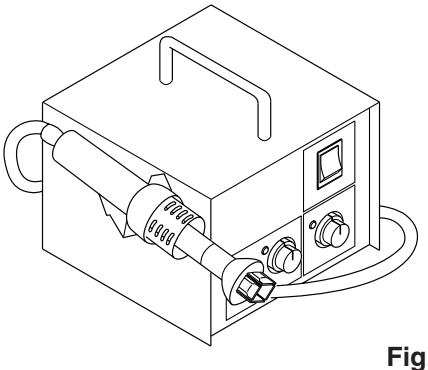


Fig. S-1-1

2. Remove the flat pack-IC with tweezers while applying the hot air.
3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

CAUTION:

1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)

3. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

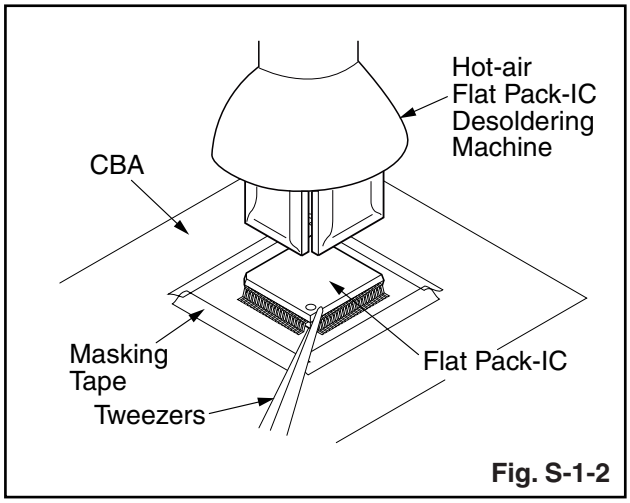


Fig. S-1-2

With Soldering Iron:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)

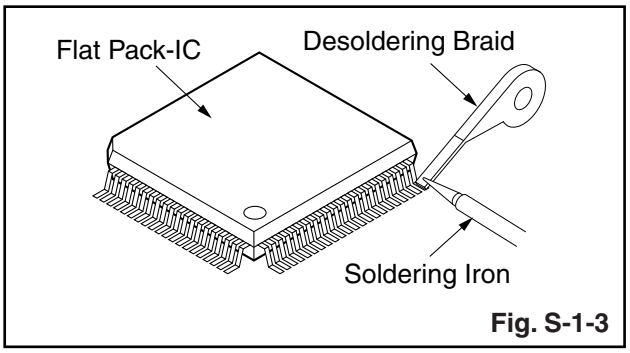


Fig. S-1-3

2. Lift each lead of the flat pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air desoldering machine. (Fig. S-1-4)

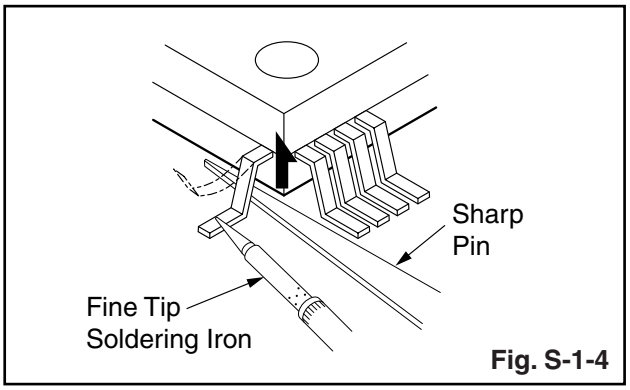


Fig. S-1-4

3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

With Iron Wire:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5.
4. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
5. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Note: When using a soldering iron, care must be taken to ensure that the flat pack-IC is not being held by glue. When the flat pack-IC is removed from the CBA, handle it gently because it may be damaged if force is applied.

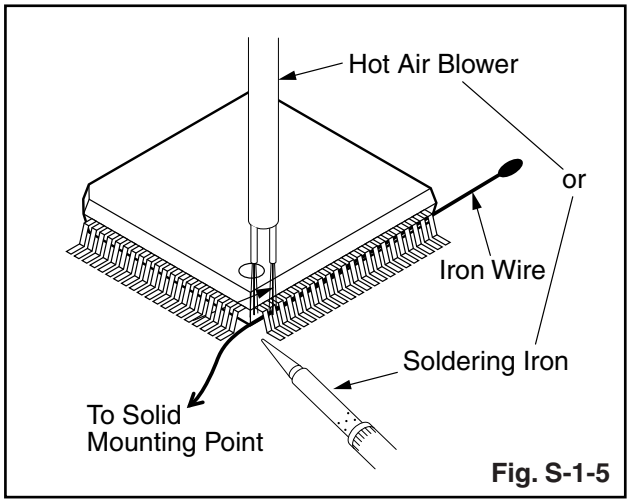


Fig. S-1-5

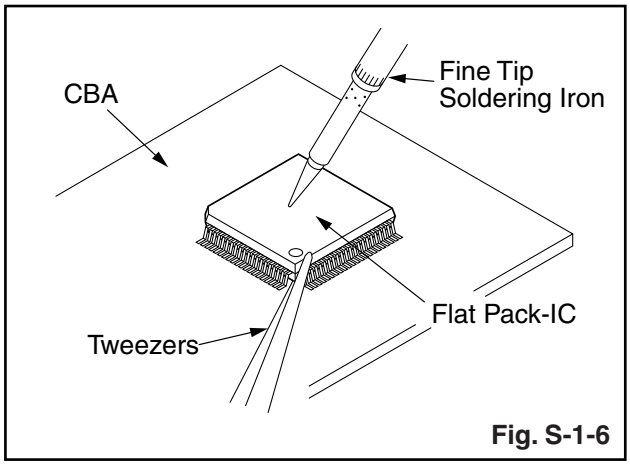


Fig. S-1-6

2. Installation

1. Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.
2. The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the 1 on the PCB when positioning for installation. Then presolder the four corners of the flat pack-IC. (See Fig. S-1-8.)
3. Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.

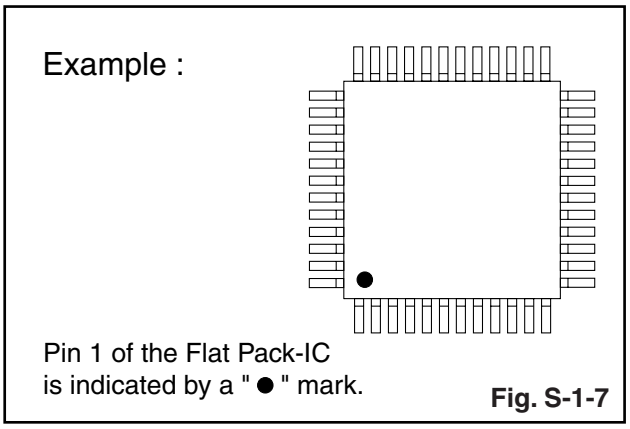


Fig. S-1-7

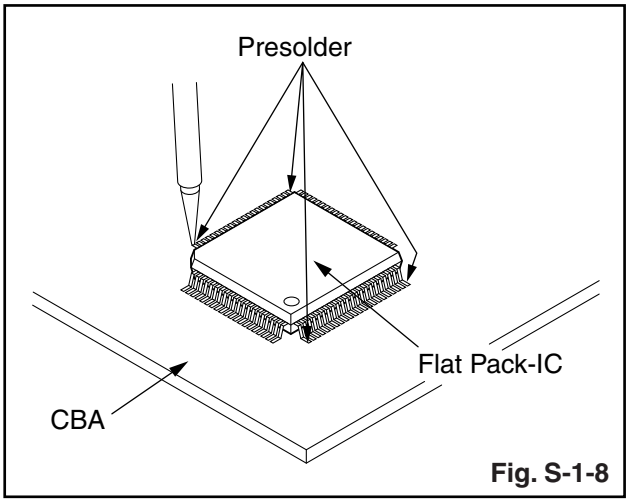


Fig. S-1-8

Instructions for Handling Semi-conductors

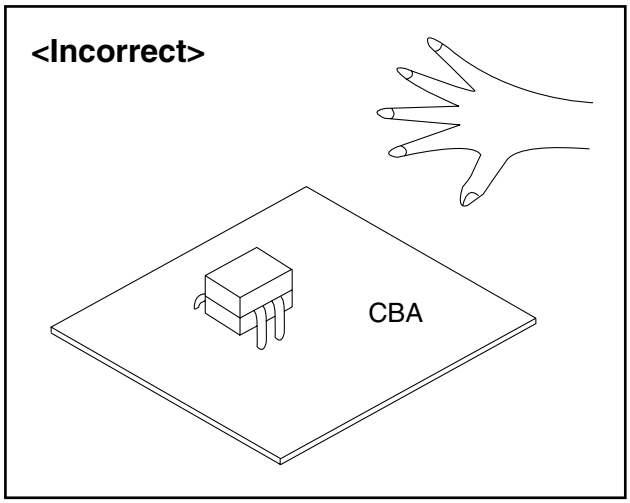
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

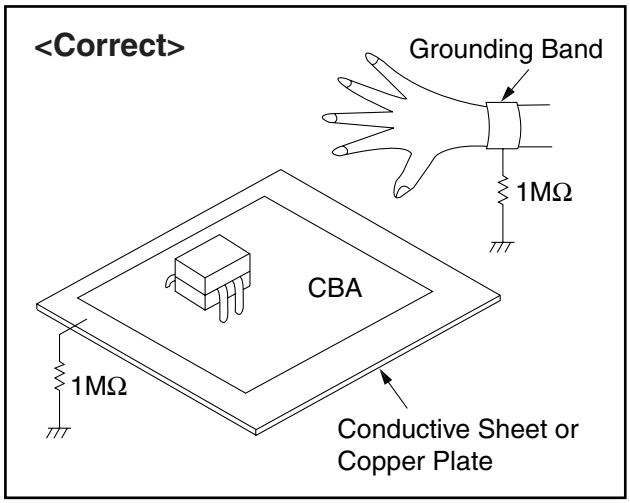
1. Ground for Human Body

Be sure to wear a grounding band (1 MΩ) that is properly grounded to remove any static electricity that may be charged on the body.

2. Ground for Workbench

Be sure to place a conductive sheet or copper plate with proper grounding (1 MΩ) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing.

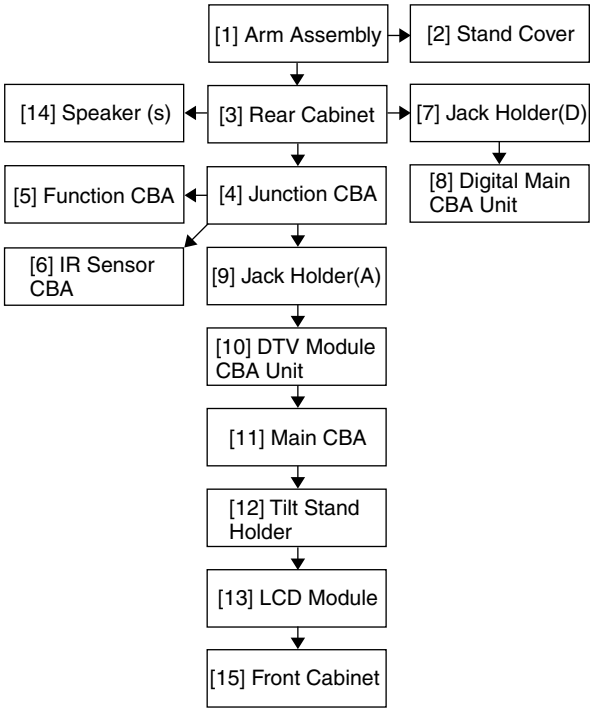




CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps for the cabinet parts, and the CBA in order to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route and dress the cables as they were.



2. Disassembly Method

Step/ Loc. No.	Part	Removal		
		Fig. No.	Remove/*Unhook/ Unlock/Release/ Unplug/Unclamp/ Desolder	Note
[1]	Arm Assembly	D1	2(S-1), 4(S-2)	---
[2]	Stand Cover	D1	----------	---
[3]	Rear Cabinet	D1	8(S-3)	---
[4]	Junction CBA	D2 D3	*CN705, *CN706, *WH1101B, *WH1151B	---
[5]	Function CBA	D2 D3	3(S-4)	---
[6]	IR Sensor CBA	D2 D3	2(S-5)	---
[7]	Jack Holder(D)	D2	2(S-6), 2(S-7)	---
[8]	Digital Main CBA Unit	D2 D3	2(S-8), *CN1501, *CN1502, *CN1503, *CN1504, *CN1901, *CN1902	---
[9]	Jack Holder(A)	D2	(S-9)	---
[10]	DTV Module CBA Unit	D2 D3	7(S-10), *CN61, *CN401, *CN402, *CN801A, *CN802A, Module PCB Holder	---
[11]	Main CBA	D2 D3	----------	---
[12]	Tilt Stand Holder	D2	(S-11)	---
[13]	LCD Module	D2	6(S-12)	---
[14]	Speaker (s)	D2	4(S-13)	---
[15]	Front Cabinet	D2	----------	---
↓ (1)	↓ (2)	↓ (3)	↓ (4)	↓ (5)

Note:

(1) Order of steps in procedure. When reassembling, follow the steps in reverse order. These numbers are also used as the Identification (location) No. of parts in figures.

(2) Parts to be removed or installed.

(3) Fig. No. showing procedure of part location

(4) Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P = Spring, L = Locking Tab, S = Screw,
CN = Connector
* = Unhook, Unlock, Release, Unplug, or Desolder
e.g. 2(S-2) = two Screws (S-2),
2(L-2) = two Locking Tabs (L-2)

(5) Refer to the following "Reference Notes in the Table."

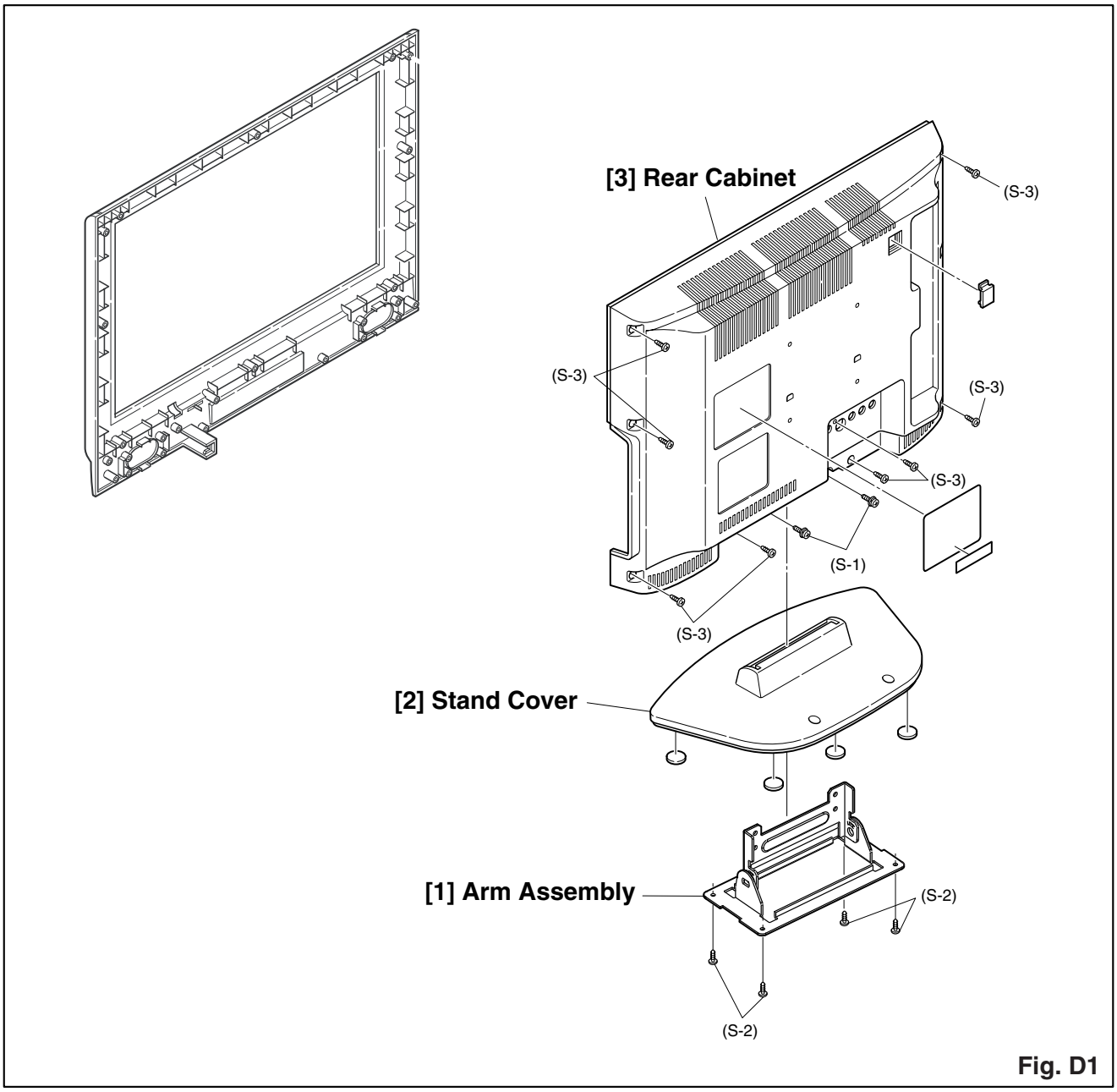

[3] Rear Cabinet
(S-3)
(S-3)
(S-3)
(S-3)
(S-1)
(S-3)
[2] Stand Cover
[1] Arm Assembly
(S-2)
(S-2)

Fig. D1

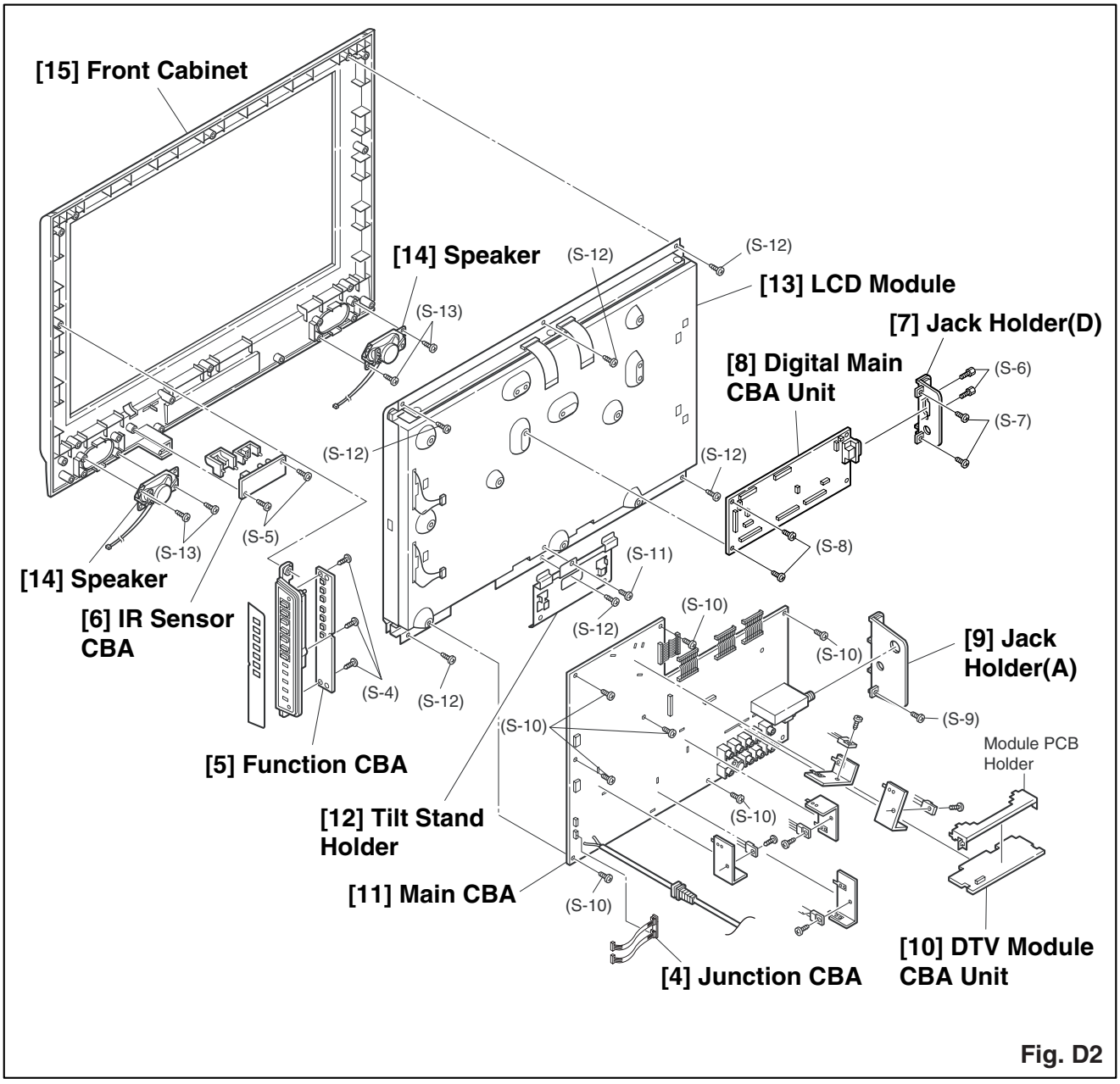

[15] Front Cabinet
[14] Speaker
(S-12)
(S-12)
[13] LCD Module
(S-13)
[7] Jack Holder(D)
[8] Digital Main CBA Unit
(S-6)
(S-7)
(S-12)
(S-12)
(S-13)
(S-5)
(S-8)
(S-11)
[14] Speaker
[6] IR Sensor CBA
(S-12)
(S-10)
(S-10)
[9] Jack Holder(A)
(S-4)
(S-12)
(S-9)
(S-10)
Module PCB Holder
[5] Function CBA
(S-10)
[12] Tilt Stand Holder
[11] Main CBA
(S-10)
[10] DTV Module CBA Unit
[4] Junction CBA

Fig. D2

TV Cable Wiring Diagram

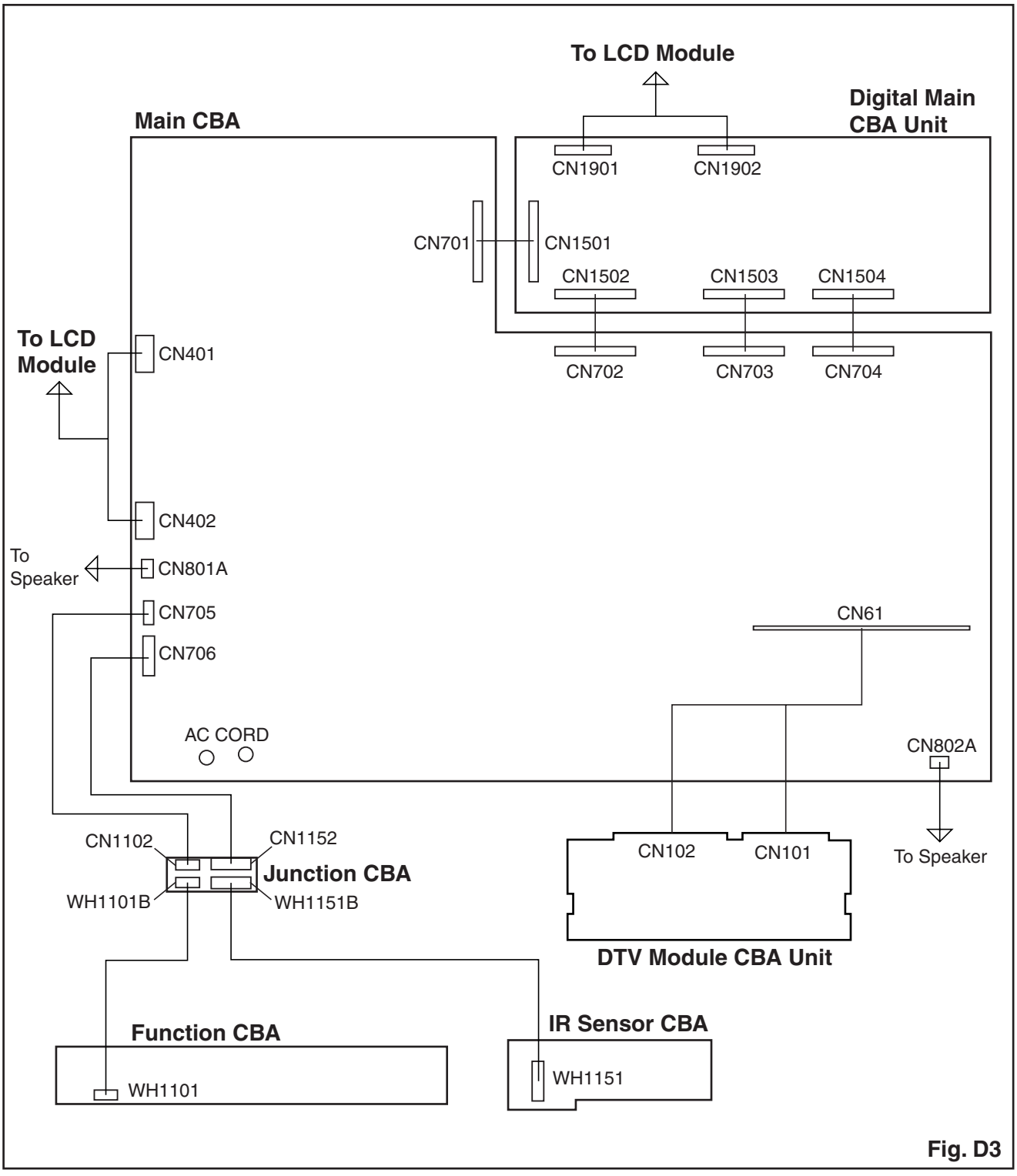


Fig. D3

ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note: "CBA" is abbreviation for "Circuit Board Assembly."

Note: Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed.
Also, do not attempt these adjustments unless the proper equipment is available.

Test Equipment Required

1. DC Voltmeter
2. NTSC Pattern Generator (Color Bar W/White Window, Red Color, Dot Pattern, Gray Scale, Monoscope, Multi-Burst)
3. Remote control unit
4. Color Analyzer

How to make the Service remote control unit:

Cut "A" portion of the attached remote control unit as shown in Fig. 1.

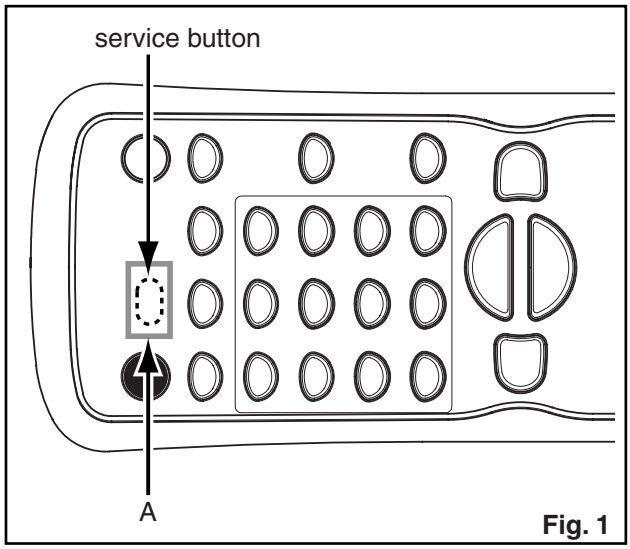


Fig. 1

How to set up the service mode:

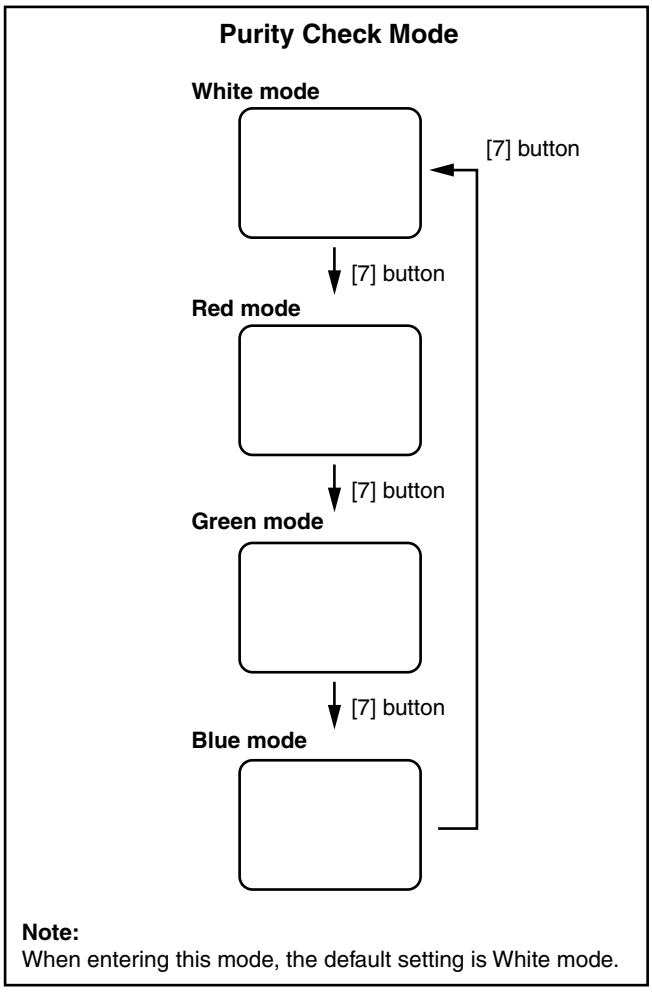
Service mode:

1. Use the service remote control unit.
2. Turn the power on.
3. Press the service button on the service remote control unit as shown in Fig. 1.

1. Purity Check Mode

This mode cycles through full-screen displays of red, green, blue, and white to check for non-active pixels.

1. Enter the Service mode.
2. Each time pressing [7] button on the service remote control unit, the display changes as follows.



Note:
When entering this mode, the default setting is White mode.

2. Auto Calibration [Component]

Purpose: To bring the color adjustment of each component into standard alignment.

Symptom of Misadjustment: If this adjustment is incorrect, component signals do not reproduce the corresponding color.

1. Input 1080i 100% Color Bar signal.
2. Enter the service mode.
3. To enter the Auto Calibration adjustment mode, press [6] button on service the remote control unit.
4. To start auto adjustment, press [1] button on the service remote control unit.
   - In the auto adjustment mode, “Please wait” appears on the screen.
   - Upon completion, “OK” appears on the screen.

3. Auto Calibration [DTV]

Purpose: To bring the color adjustment of DTV into standard alignment.

Symptom of Misadjustment: If this adjustment is incorrect, DTV signals do not reproduce the corresponding color.

1. Enter the service mode.
2. To enter the Auto Calibration adjustment mode, press [6] button on the service remote control unit.
3. To start auto adjustment, press [2] button on the service remote control unit.
   - In the auto adjustment mode, “Please wait” appears on the screen.
   - Upon completion, “OK” appears on the screen.

4. Auto Calibration [PC]

Purpose: To bring the color adjustment of PC into standard alignment.

Symptom of Misadjustment: If this adjustment is incorrect, PC signals do not reproduce the corresponding color.

1. Input XGA 100% White signal.
2. Enter the service mode.
3. To enter the Auto Calibration adjustment mode, press [6] button on service the remote control unit.
4. To start auto adjustment, press [3] button on the service remote control unit.
   - In the auto adjustment mode, “Please wait” appears on the screen.
   - Upon completion, “OK” appears on the screen.

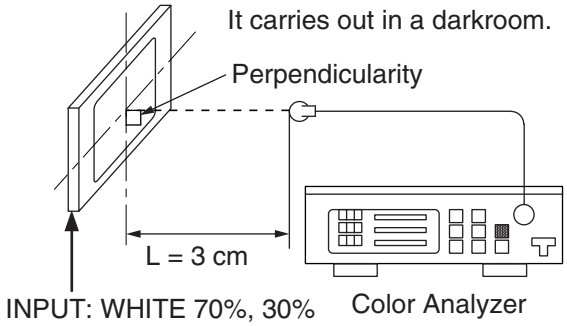
The following adjustment normally are not attempted in the field. Only when replacing the LCD Panel then adjust as a preparation.

5. White Balance Adjustment [Video]

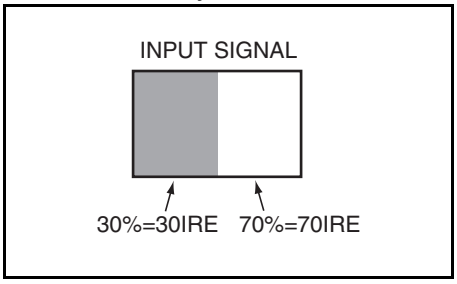
Purpose: To mix red, green and blue beams correctly for pure white.

Symptom of Misadjustment: White becomes bluish or reddish.

Test Point	Adj. Point	Mode	Input
Screen	[CH. ▲/▼] buttons	**[VIDEO]** C/D1	White Purity (APL 70%) or (APL 30%)
M. EQ.		**Spec.**	
Pattern Generator, Color analyzer		x= 0.279 ± 0.005 y= 0.272 ± 0.005	
Figure			



1. Operate the unit for more than 20 minutes.
2. Input the White Purity.



3. Set the color analyzer to the CHROMA mode and bring the optical receptor to the center on the LCD-Panel surface after zero point calibration as shown above.
   Note: The optical receptor must be set perpendicularly to the LCD Panel surface.
4. Enter the Service mode. Press [VOL. ▽] button on the service remote control unit and select “C/D1” mode.

5. **[CUTOFF]**
   Press [1] button to select “COR” for Red Cutoff adjustment. Press [3] button to select “COB” for Blue Cutoff adjustment.
   [DRIVE]
   Press [4] button to select “DR” for Red Drive adjustment. Press [6] button to select “DB” for Blue Drive adjustment.
6. In each color mode, press [CH. ▲ / ▼] buttons to adjust the values of color.
7. Adjust Cutoff and Drive so that the color temperature becomes 11000K (x= 0.279 / y= 0.272 ±0.005).

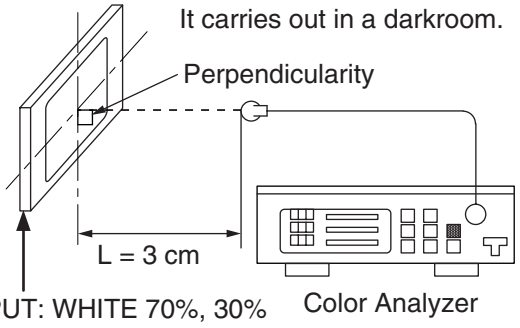
The following adjustment normally are not attempted in the field. Only when replacing the LCD Panel then adjust as a preparation.

6. White Balance Adjustment [Component / DTV]

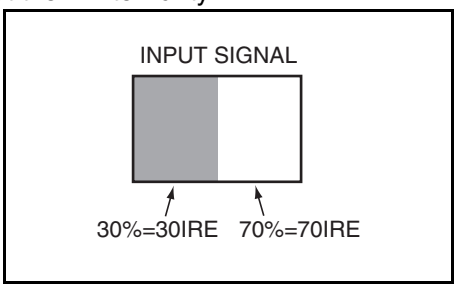
Purpose: To mix red, green and blue beams correctly for pure white.

Symptom of Misadjustment: White becomes bluish or reddish.

Test Point	Adj. Point	Mode	Input
Screen	[CH. ▲/▼] buttons	**[VIDEO]** C/D2	White Purity (APL 70%) or (APL 30%)
M. EQ.		**Spec.**	
Pattern Generator, Color analyzer		x= 0.279 ± 0.005 y= 0.272 ± 0.005	
Figure			



1. Operate the unit for more than 20 minutes.
2. Input the White Purity.



3. Set the color analyzer to the CHROMA mode and bring the optical receptor to the center on the LCD-Panel surface after zero point calibration as shown above.
   Note: The optical receptor must be set perpendicularly to the LCD Panel surface.
4. Enter the Service mode. Press [VOL. ▽] button on the service remote control unit and select “C/D2” mode.
5. **[CUTOFF]**
   Press [1] button to select “COR” for Red Cutoff adjustment. Press [3] button to select “COB” for Blue Cutoff adjustment.
   [DRIVE]
   Press [4] button to select “DR” for Red Drive adjustment. Press [6] button to select “DB” for Blue Drive adjustment.
6. In each color mode, press [CH. ▲ / ▼] buttons to adjust the values of color.
7. Adjust Cutoff and Drive so that the color temperature becomes 11000K (x= 0.279 / y= 0.272 ±0.005).

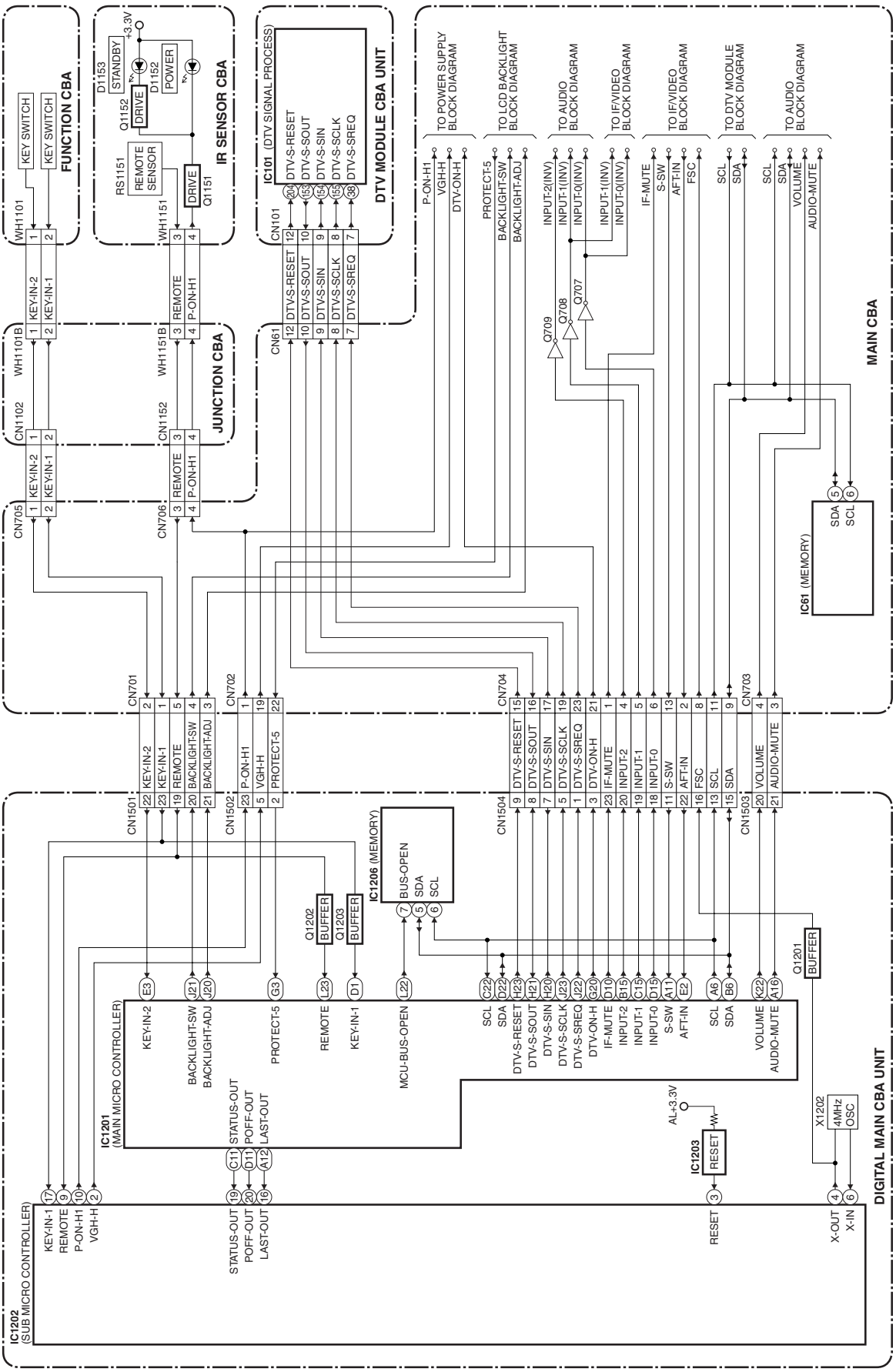
HOW TO INITIALIZE THE LCD TELEVISION

How to initialize the LCD television:

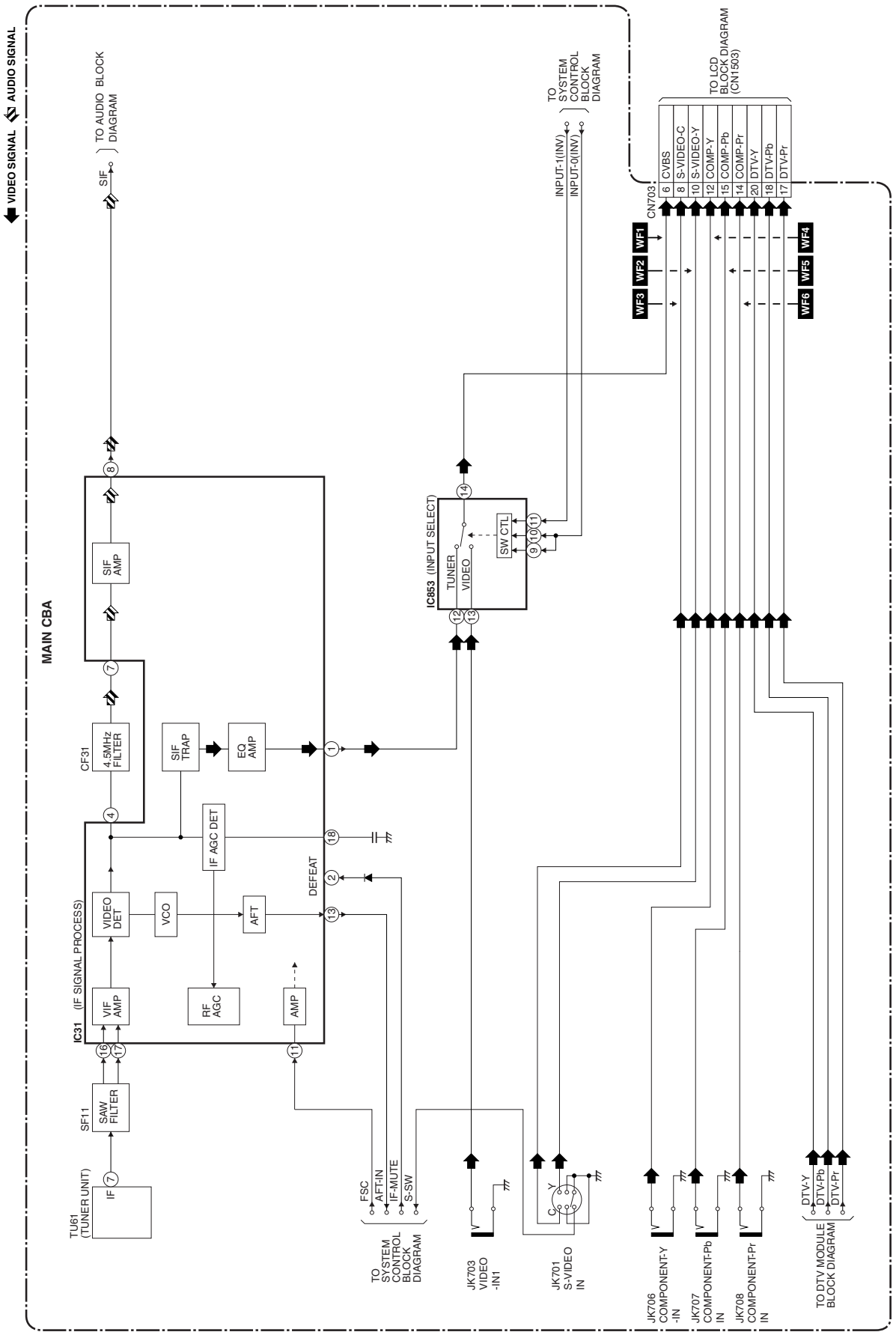
1. Turn the power on.
2. To enter the service mode, press the service button on the service remote control unit. (Refer to page 5-1.)
   - To cancel the service mode, press [POWER] button on the service remote control unit.
3. Press [DISPLAY] button on the service remote control unit to initialize the LCD television.
4. "FF" will appear in the upper left of the screen. "FF" color will change to red from white when initialzing is complete.

BLOCK DIAGRAMS

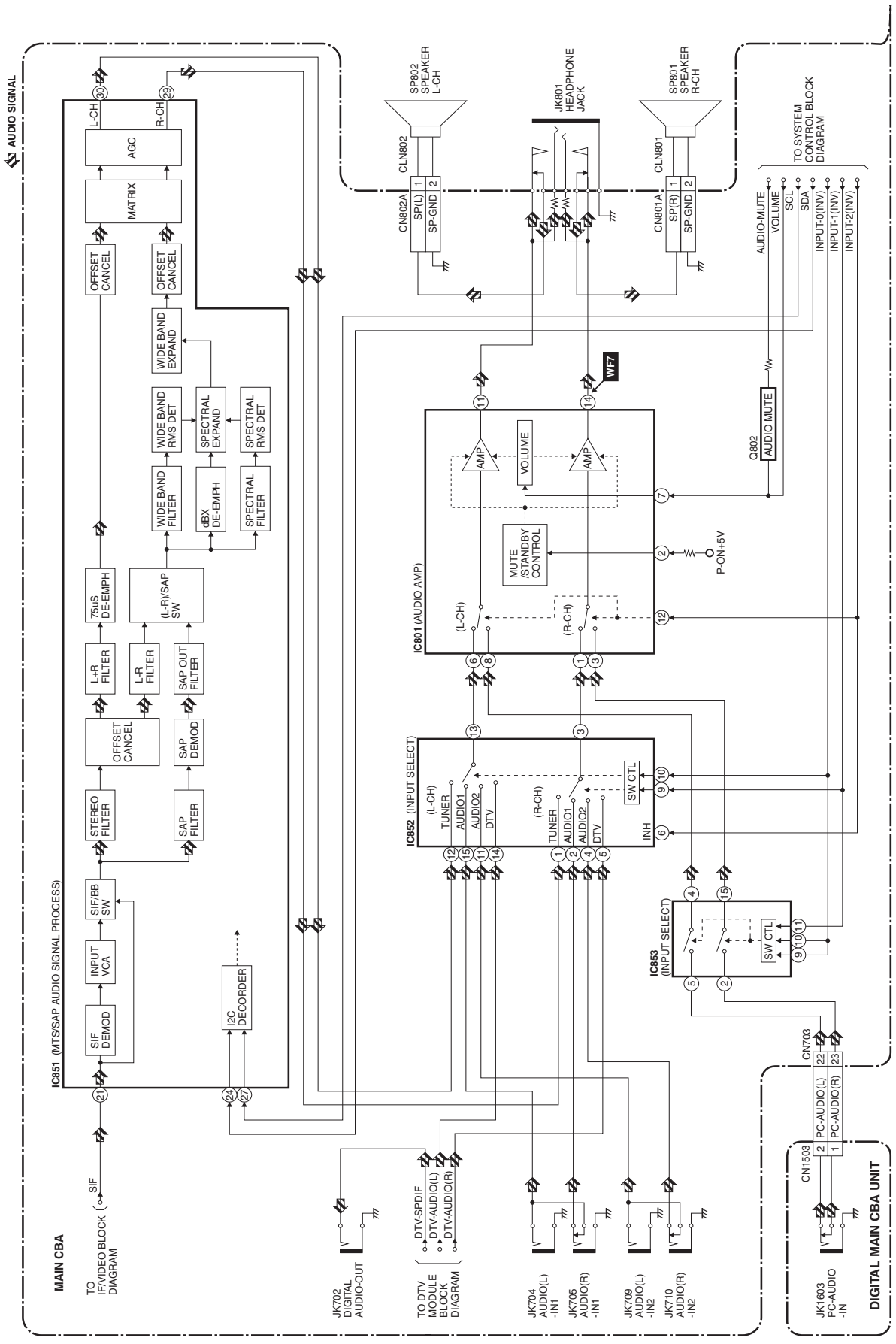
System Control Block Diagram



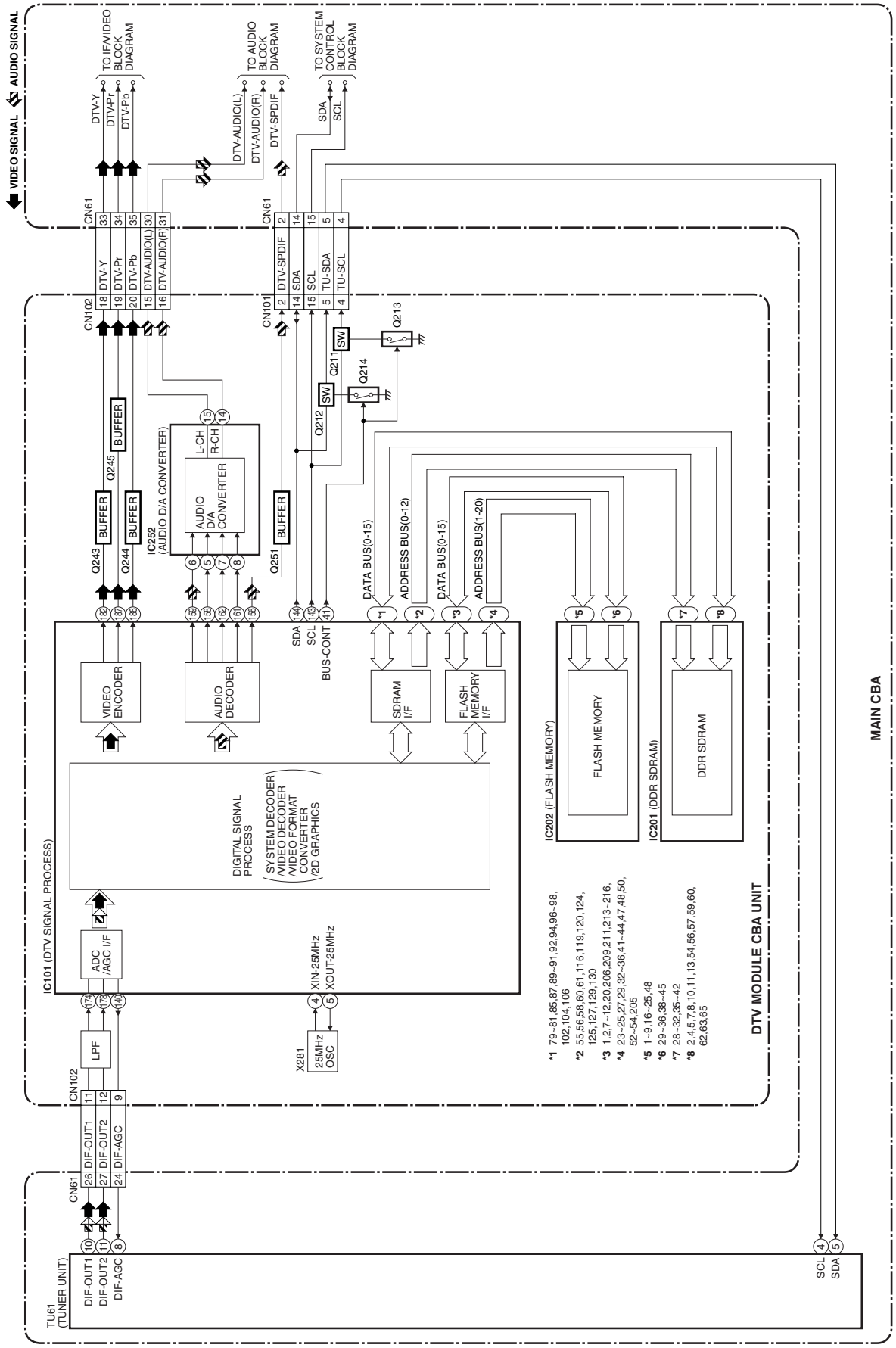
IF/Video Block Diagram



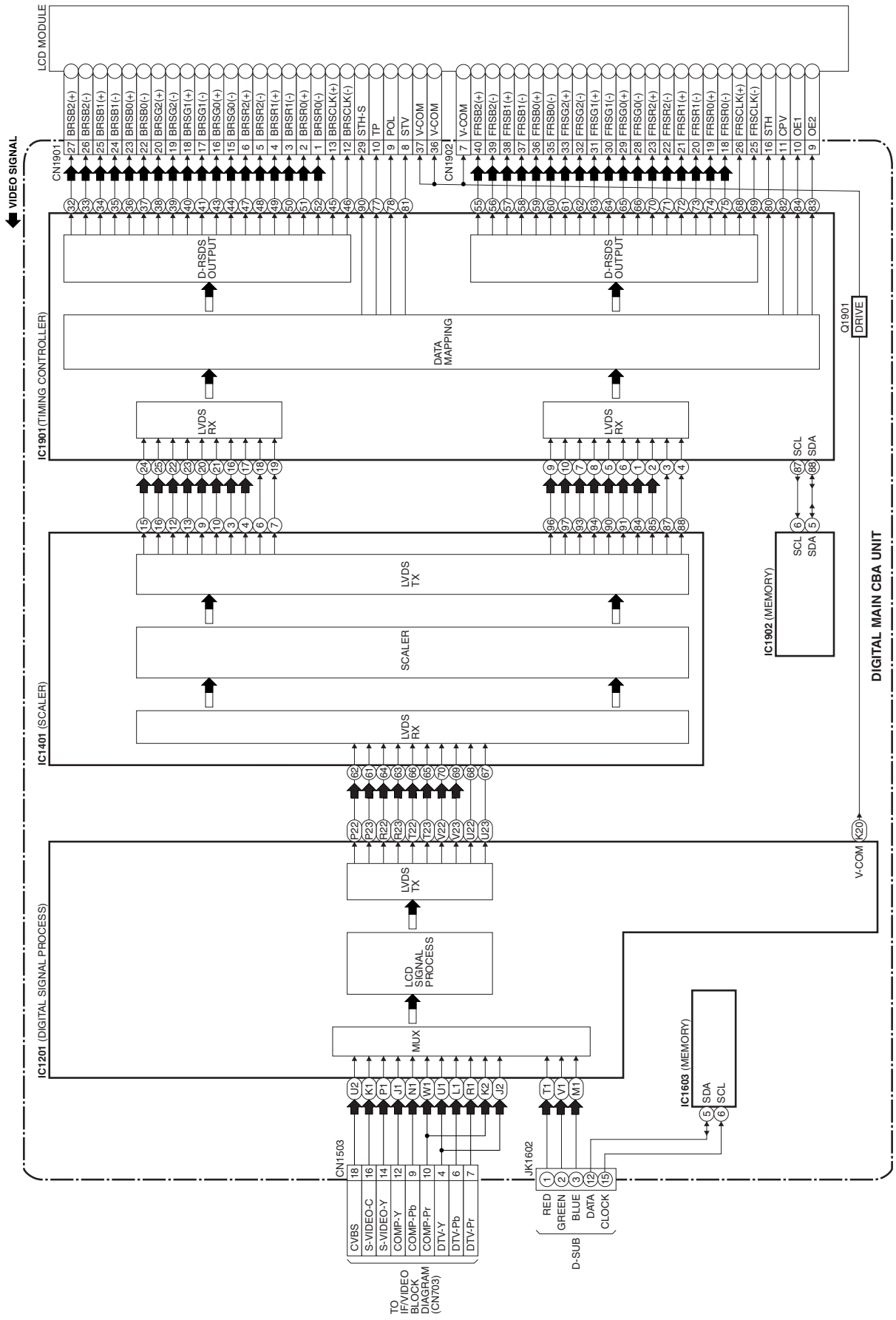
Audio Block Diagram



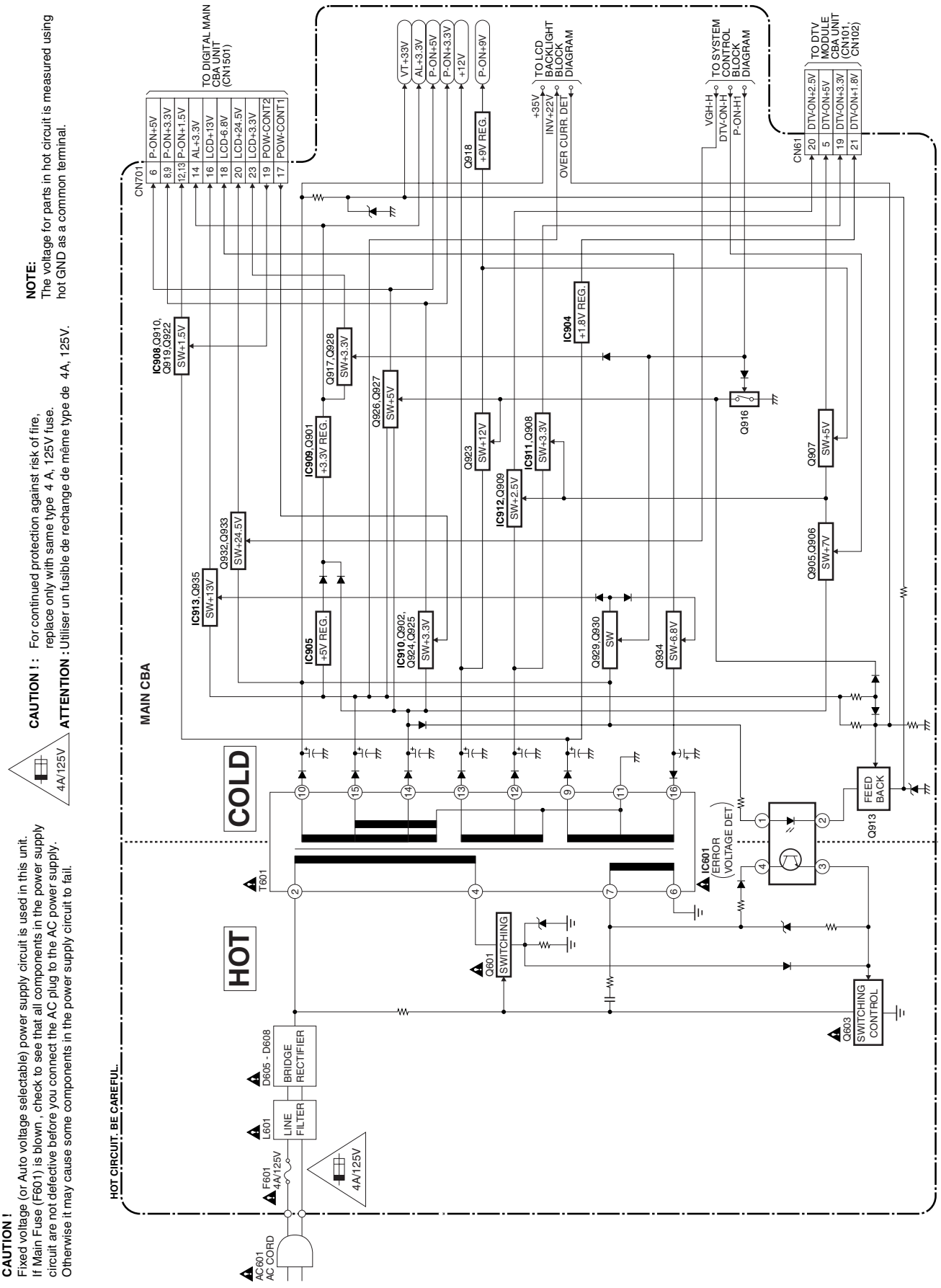
DTV Module Block Diagram



LCD Block Diagram



Power Supply Block Diagram

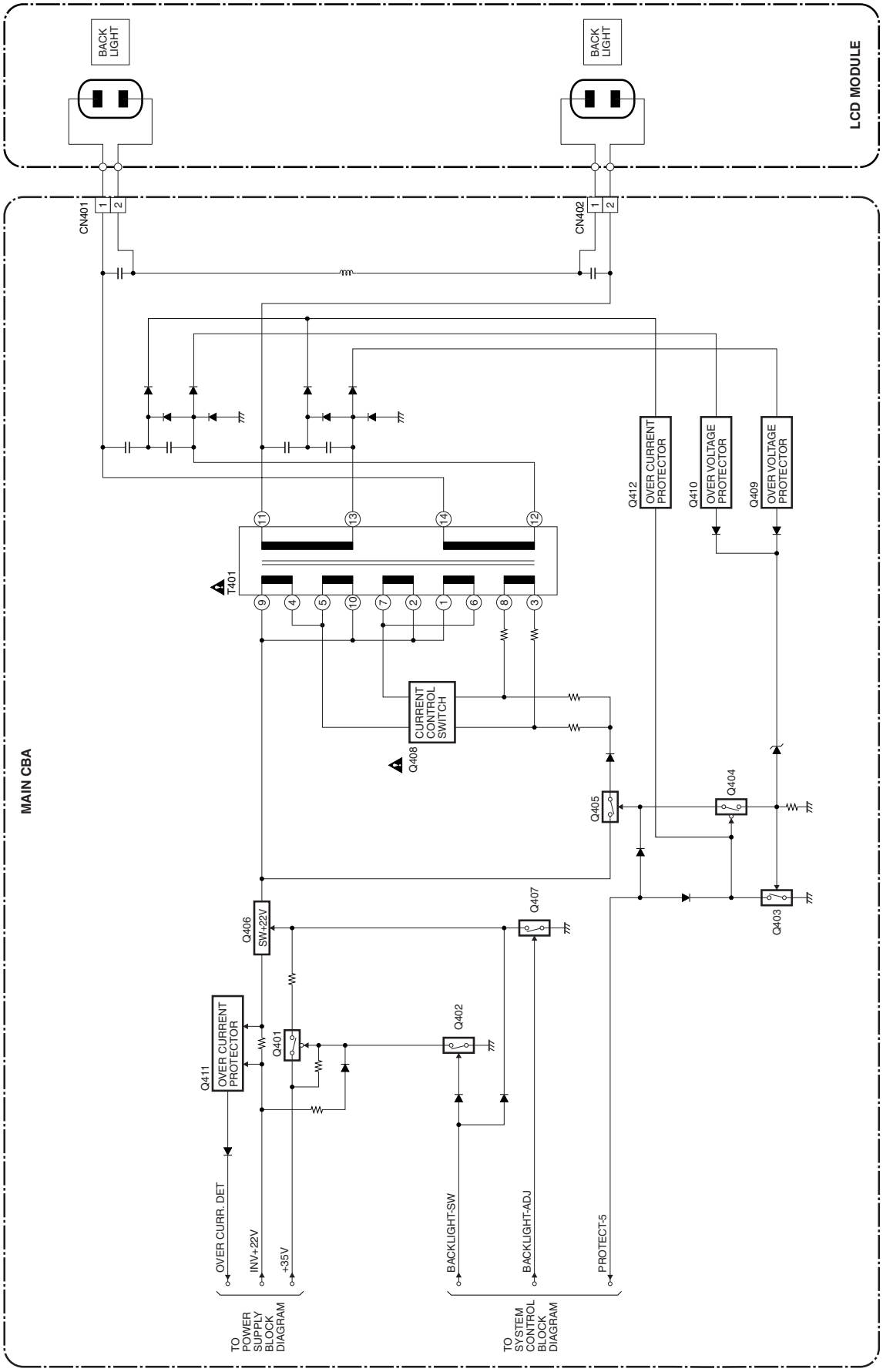


CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

CAUTION ! : For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.
ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

LCD Backlight Block Diagram



SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

WARNING

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark "⚠" in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Notes:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ($K = 10^3$, $M = 10^6$).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in μF ($P = 10^{-6}$ μF).
5. All voltages are DC voltages unless otherwise specified.

LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

1. CAUTION:

CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE_A,_V FUSE.

ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE_A,_V.

2. CAUTION:

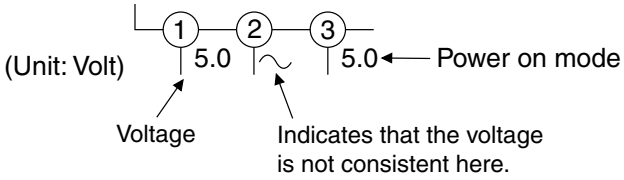
Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

3. Note:

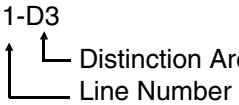
1. Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.
2. To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

4. Voltage indications on the schematics are as shown below:

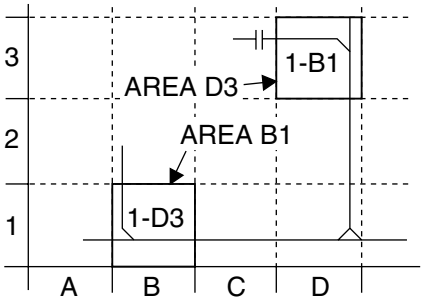
Plug the TV power cord into a standard AC outlet.:



5. How to read converged lines



Examples:
1. "1-D3" means that line number "1" goes to the line number "1" of the area "D3".
2. "1-B1" means that line number "1" goes to the line number "1" of the area "B1".



6. Test Point Information

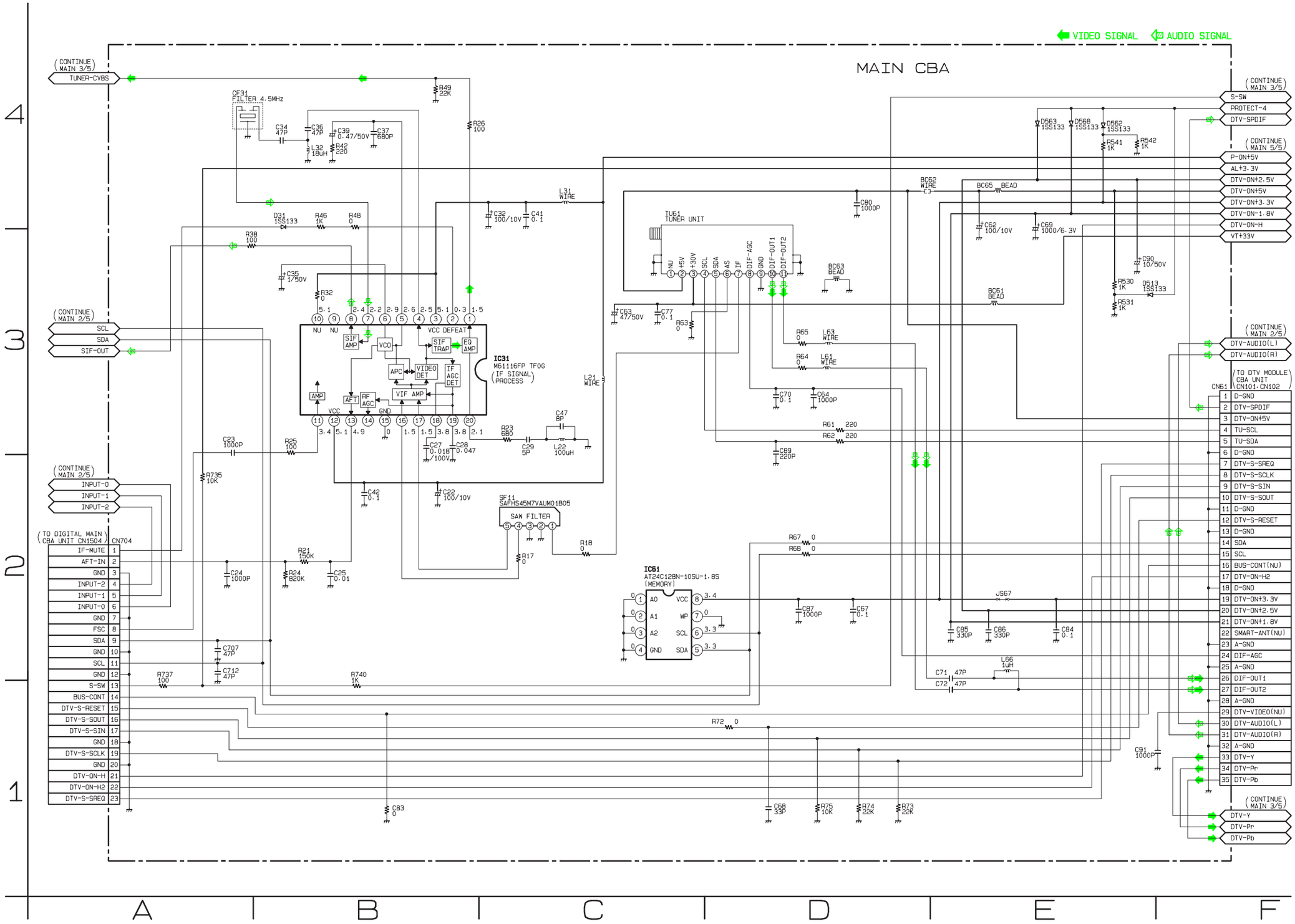
: Indicates a test point with a jumper wire across a hole in the PCB.

: Used to indicate a test point with a component lead on foil side.

: Used to indicate a test point with no test pin.

: Used to indicate a test point with a test pin.

Main 1/5 Schematic Diagram



VOLTAGE CHART

CN61

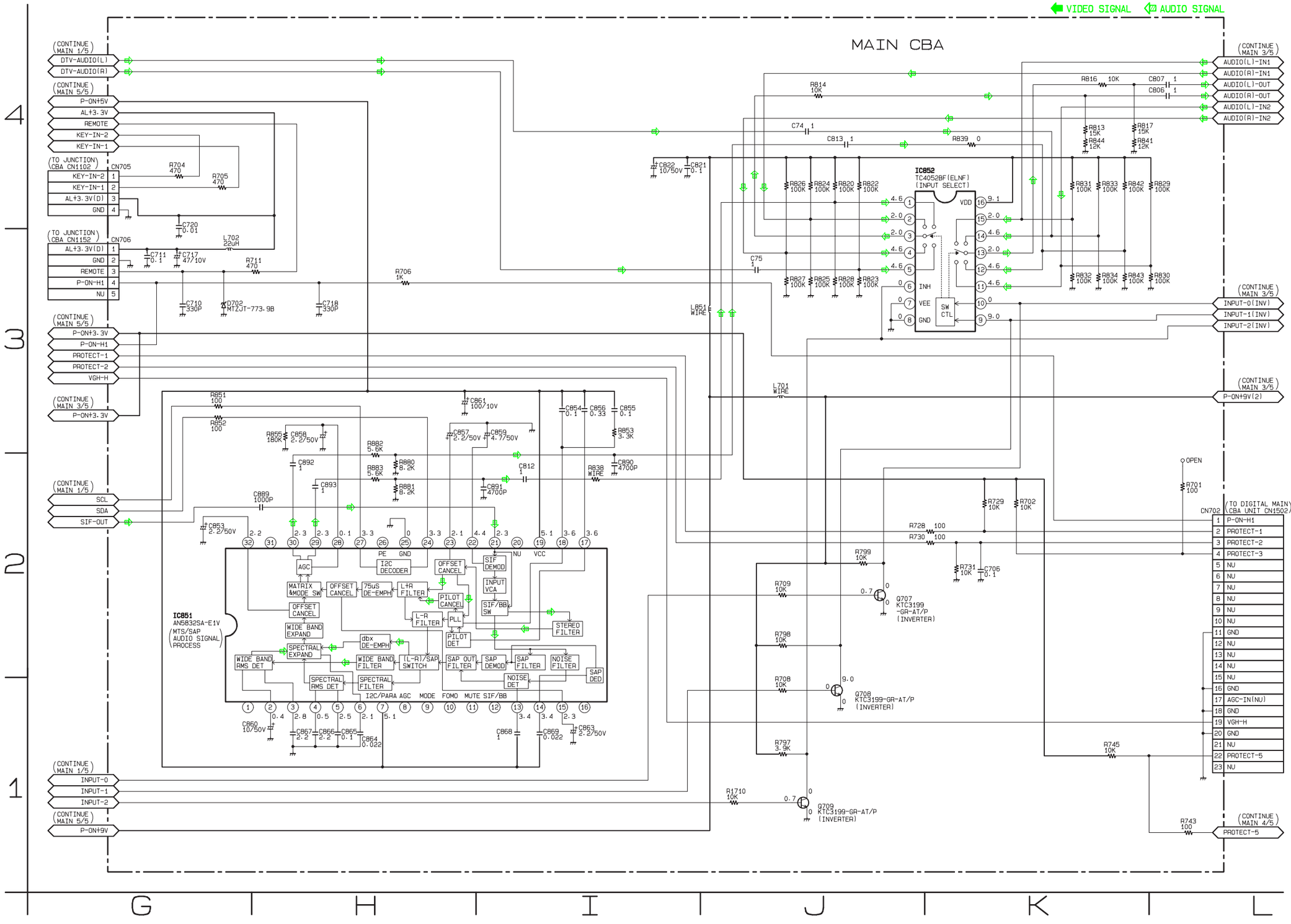
Pin No.	Voltage
1	0
2	1.0
3	5.0
4	3.3
5	3.3
6	0
7	2.8
8	3.2
9	1.5
10	0.2
11	0
12	3.3
13	0
14	3.3
15	3.3
16	---
17	3.2
18	0
19	3.4
20	2.6
21	1.9
22	---
23	0
24	0
25	0
26	0
27	0
28	0
29	---
30	2.5
31	2.5
32	0
33	~
34	~
35	~

VOLTAGE CHART

CN704

Pin No.	Voltage
1	3.3
2	2.1
3	0
4	3.3
5	0
6	3.3
7	0
8	1.0
9	3.3
10	0
11	3.3
12	0
13	3.3
14	0
15	3.3
16	0.2
17	1.5
18	0
19	3.2
20	0
21	3.3
22	3.2
23	2.8

Main 2/5 Schematic Diagram

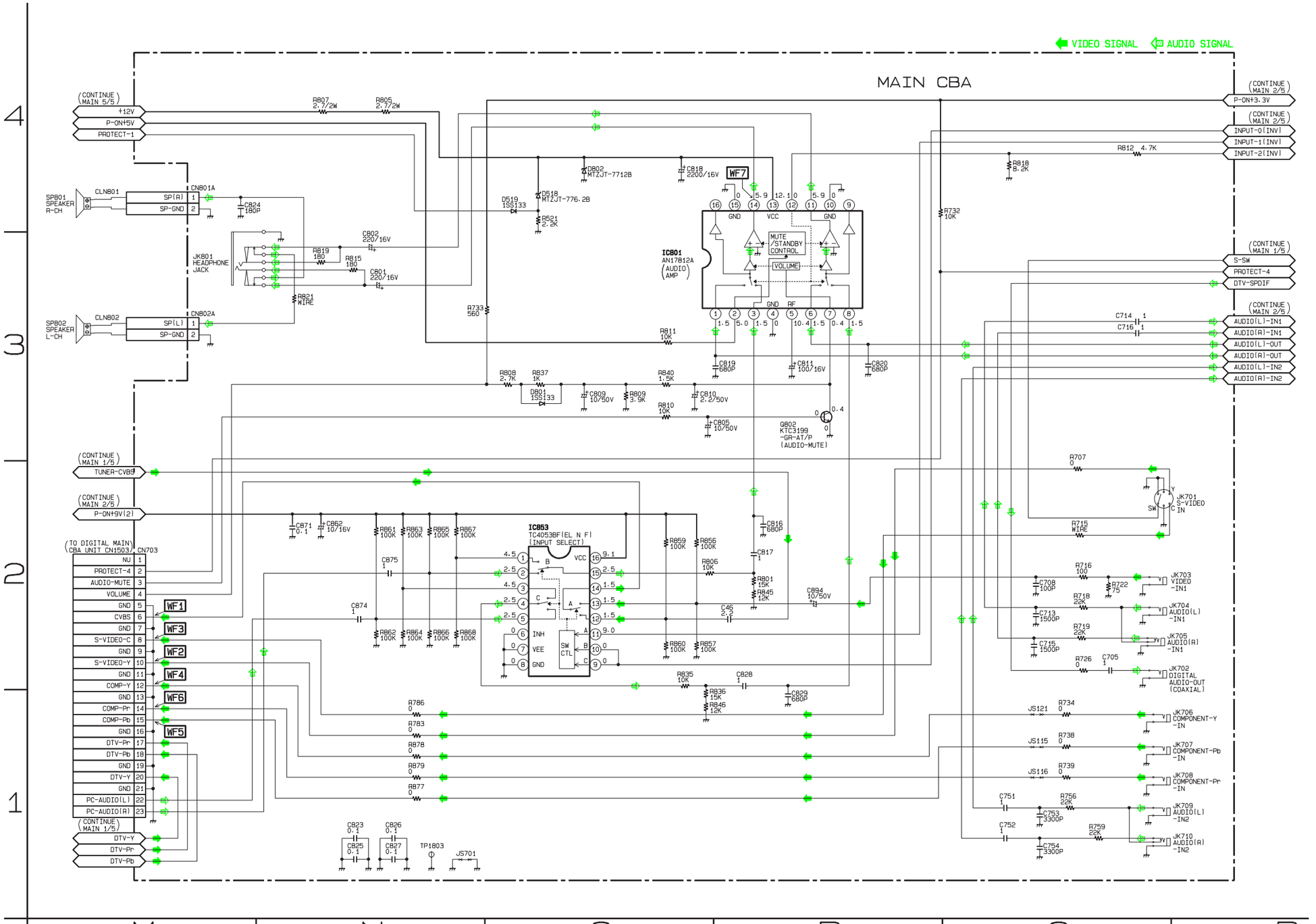


VOLTAGE CHART

CN702

Pin No.	Voltage
1	3.1
2	2.4
3	1.8
4	3.3
5	0
6	---
7	---
8	---
9	---
10	---
11	0
12	---
13	---
14	---
15	---
16	0
17	---
18	0
19	3.3
20	0
21	---
22	3.3
23	---

Main 3/5 Schematic Diagram

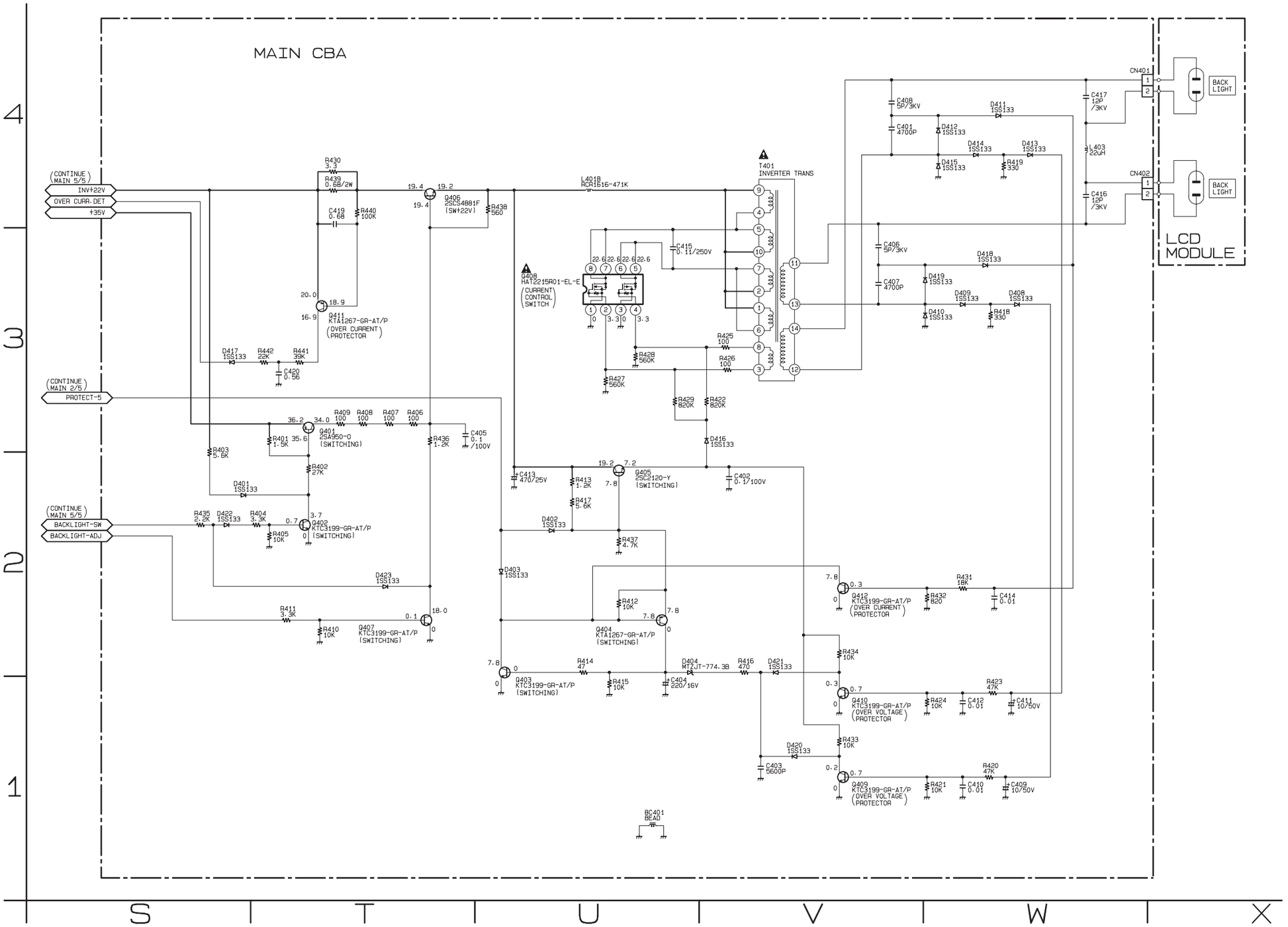


VOLTAGE CHART

CN703

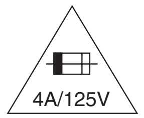
Pin No.	Voltage
1	---
2	2.2
3	0
4	0.7
5	0
6	0
7	0
8	0
9	0
10	0
11	0
12	0
13	0
14	0
15	0
16	0
17	~
18	~
19	0
20	~
21	0
22	0
23	0

Main 4/5 Schematic Diagram



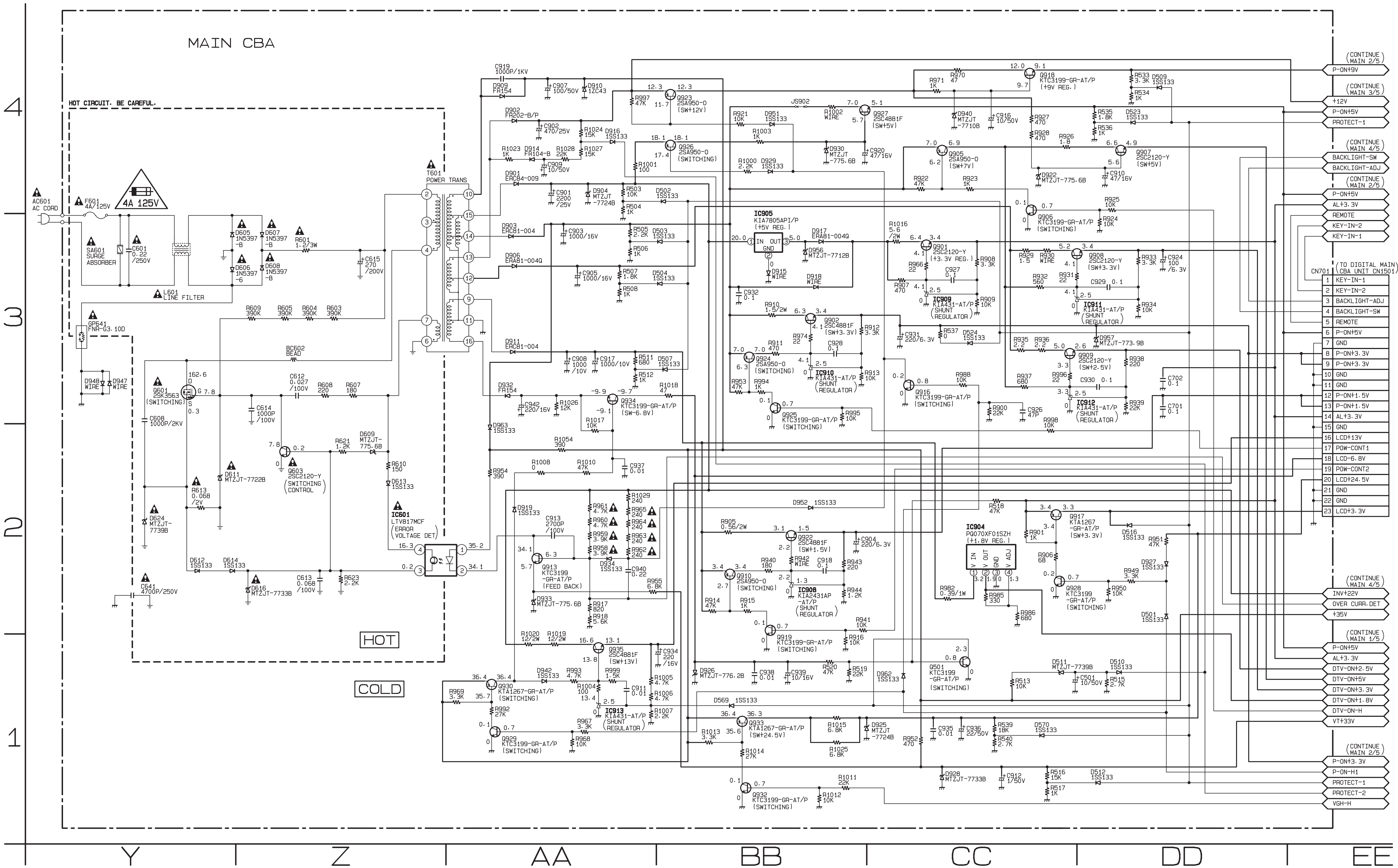
Main 5/5 Schematic Diagram

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.



CAUTION ! : For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.
ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

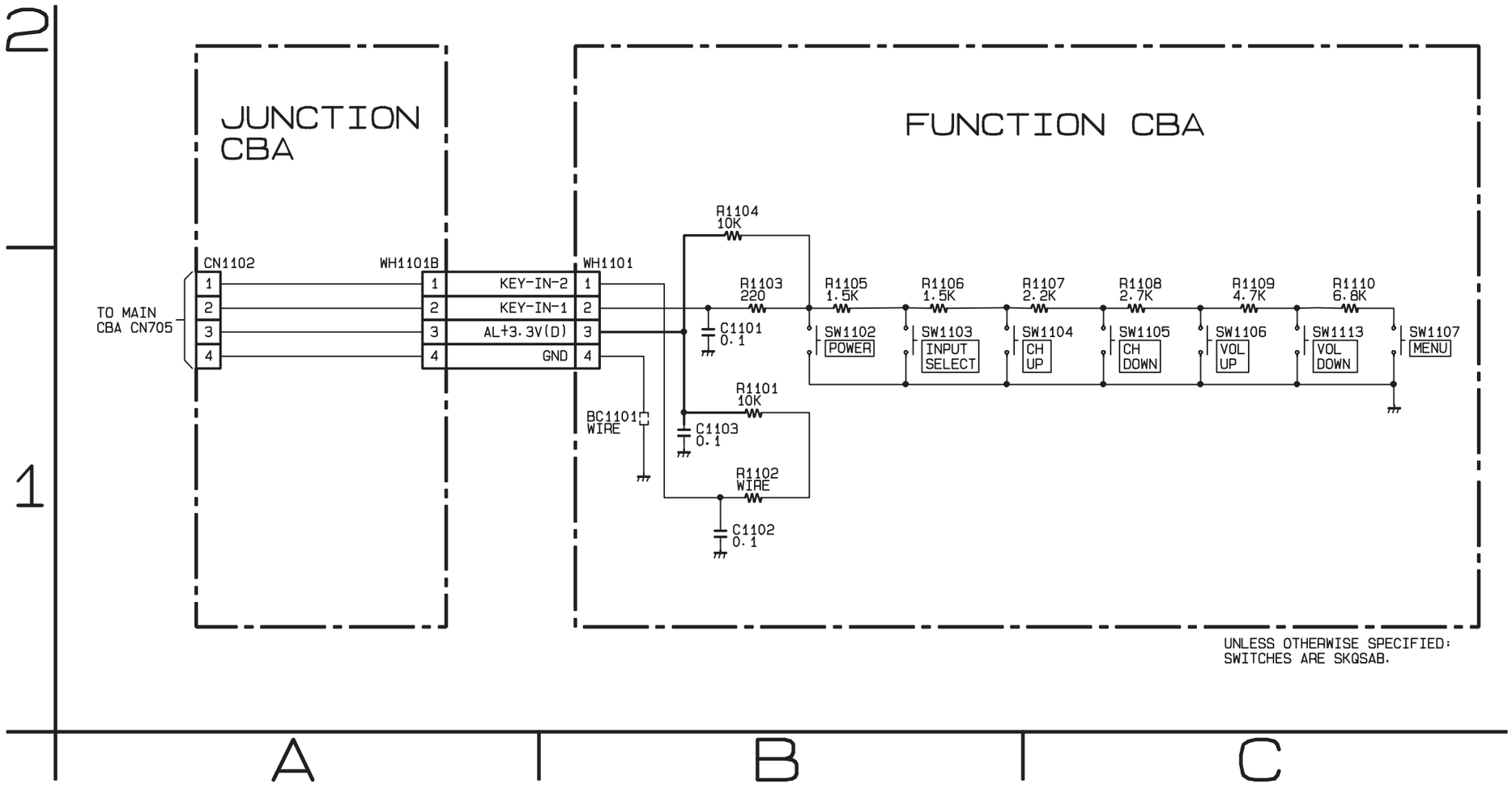


MAIN CBA
HOT CIRCUIT. BE CAREFUL.
AC601 AC CORD
F601 4A/125V
4A 125V
SA601 SURGE ABSORBER
L601 LINE FILTER
T601 POWER TRANS
Q601 2SK3563 (SWITCHING)
IC601 LTV817MCF (ERROR VOLTAGE DET)
Q603 2SC2120-Y (SWITCHING CONTROL)
HOT
COLD
IC905 KIA7805API/P (+5V REG.)
IC904 PQ070XF01SZH (+1.8V REG.)
IC908 KIA2431AP -AT/P (SHUNT REGULATOR)
IC909 KIA431-AT/P (SHUNT REGULATOR)
IC910 KIA431-AT/P (SHUNT REGULATOR)
IC911 KIA431-AT/P (SHUNT REGULATOR)
IC912 KIA431-AT/P (SHUNT REGULATOR)
IC913 KIA431-AT/P (SHUNT REGULATOR)
(CONTINUE MAIN 2/5) P-ON+9V
(CONTINUE MAIN 3/5) +12V P-ON+5V PROTECT-1
(CONTINUE MAIN 4/5) BACKLIGHT-SW BACKLIGHT-ADJ
(CONTINUE MAIN 2/5) P-ON+5V AL+3.3V REMOTE KEY-IN-2 KEY-IN-1
CN701 (TO DIGITAL MAIN CBA UNIT CN1501)
1 KEY-IN-1
2 KEY-IN-2
3 BACKLIGHT-ADJ
4 BACKLIGHT-SW
5 REMOTE
6 P-ON+5V
7 GND
8 P-ON+3.3V
9 P-ON+3.3V
10 GND
11 GND
12 P-ON+1.5V
13 P-ON+1.5V
14 AL+3.3V
15 GND
16 LCD+13V
17 POW-CONT1
18 LCD-6.8V
19 POW-CONT2
20 LCD+24.5V
21 GND
22 GND
23 LCD+3.3V
(CONTINUE MAIN 4/5) INV+22V OVER CURR.DET +35V
(CONTINUE MAIN 1/5) P-ON+5V AL+3.3V DTV-ON+2.5V DTV-ON+5V DTV-ON+3.3V DTV-ON+1.8V DTV-ON-H VT+33V
(CONTINUE MAIN 2/5) P-ON+3.3V P-ON-H1 PROTECT-1 PROTECT-2 VGH-H
4 3 2 1
Y Z AA BB CC DD EE

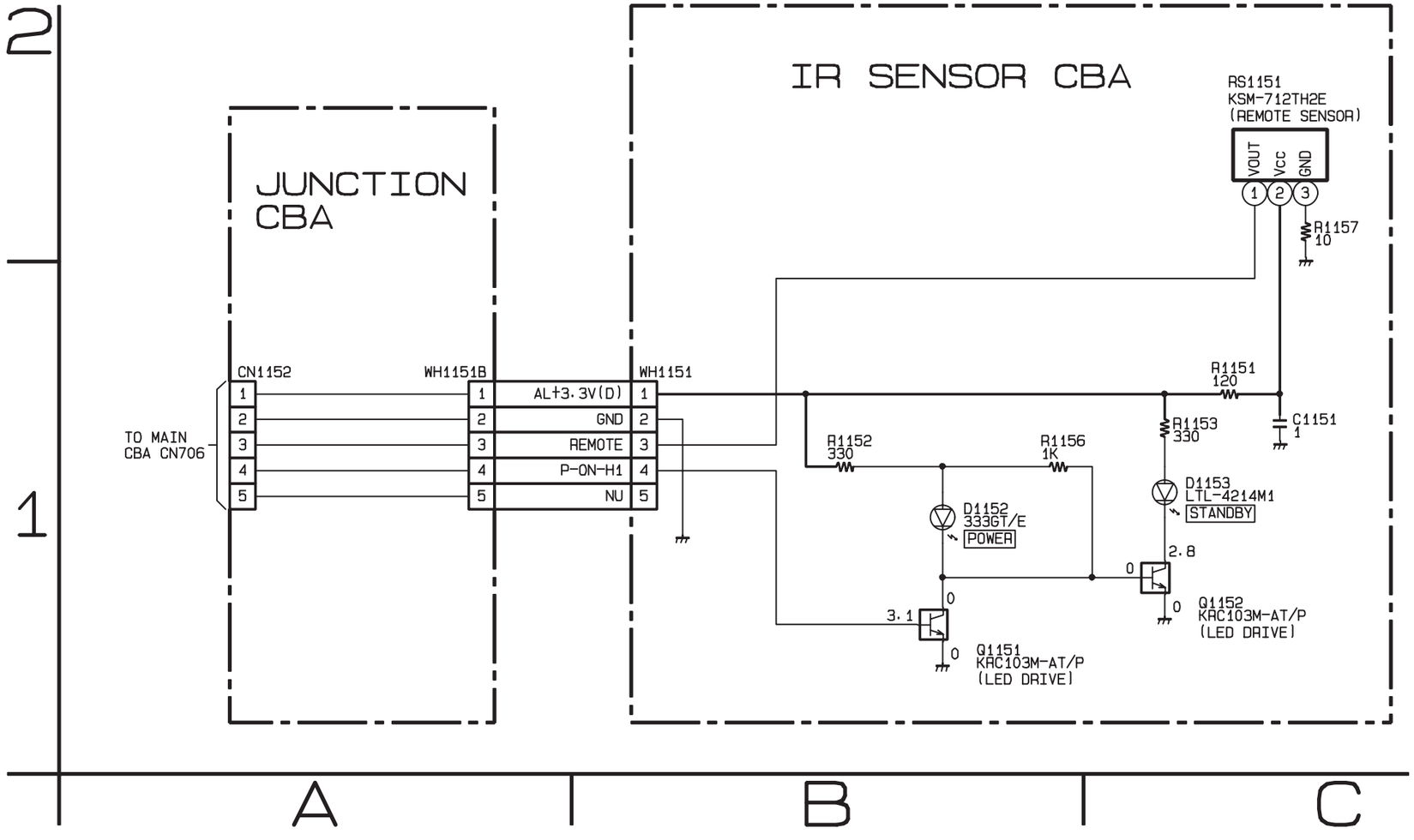
VOLTAGE CHART

CN701

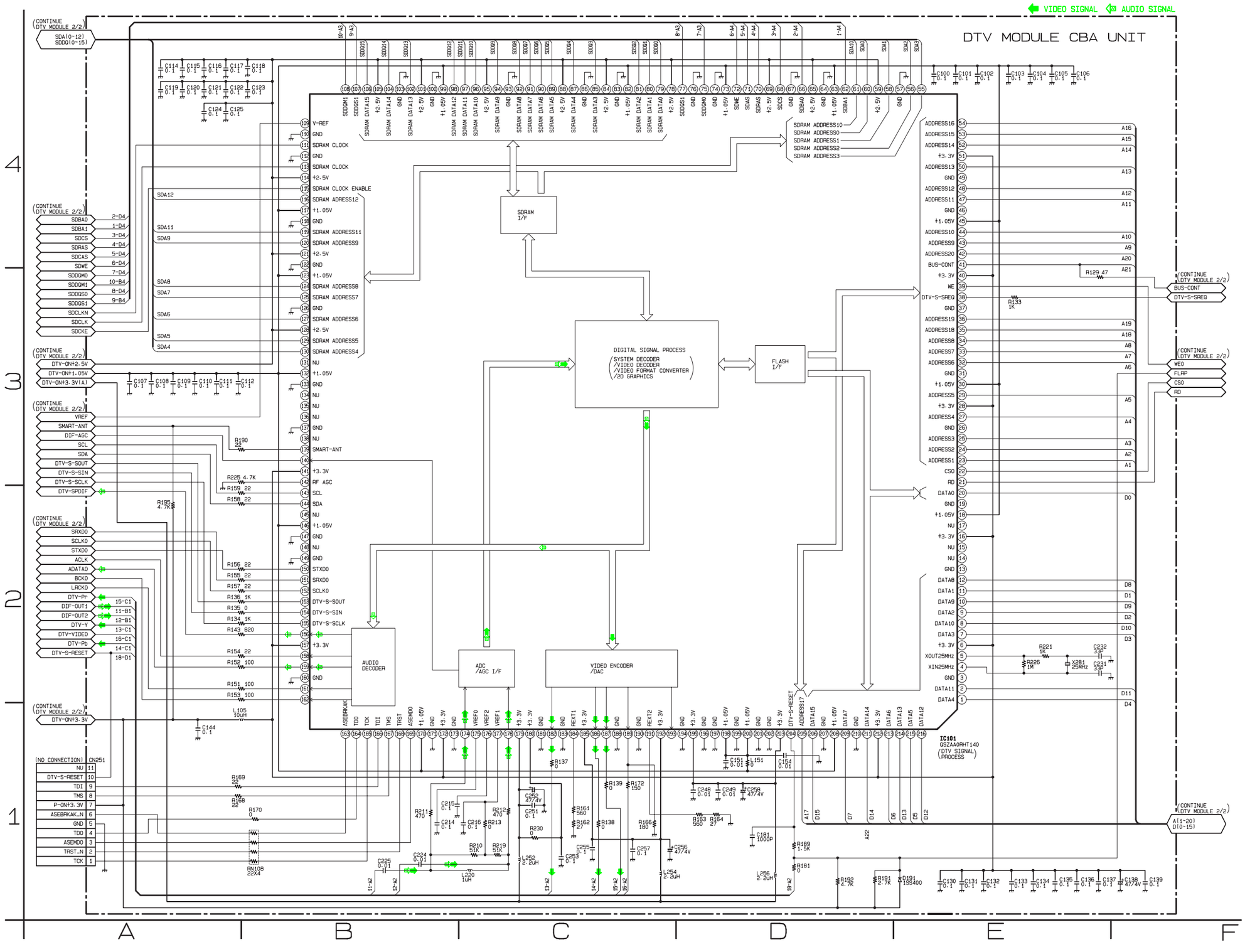
Pin No.	Voltage
1	3.4
2	3.4
3	0.4
4	3.3
5	2.1
6	5.1
7	0
8	3.4
9	3.4
10	0
11	0
12	1.5
13	1.5
14	3.4
15	0
16	13.1
17	3.3
18	-7.0
19	3.3
20	24.4
21	0
22	0
23	3.3


2
1
A
B
C
JUNCTION CBA
FUNCTION CBA
CN1102
WH1101B
WH1101
TO MAIN CBA CN705
1
2
3
4
KEY-IN-2
KEY-IN-1
AL+3.3V(D)
GND
R1104 10K
R1103 220
R1105 1.5K
R1106 1.5K
R1107 2.2K
R1108 2.7K
R1109 4.7K
R1110 6.8K
C1101 0.1
SW1102 POWER
SW1103 INPUT SELECT
SW1104 CH UP
SW1105 CH DOWN
SW1106 VOL UP
SW1113 VOL DOWN
SW1107 MENU
R1101 10K
BC1101 WIRE
C1103 0.1
R1102 WIRE
C1102 0.1
UNLESS OTHERWISE SPECIFIED:
SWITCHES ARE SKQSAB.

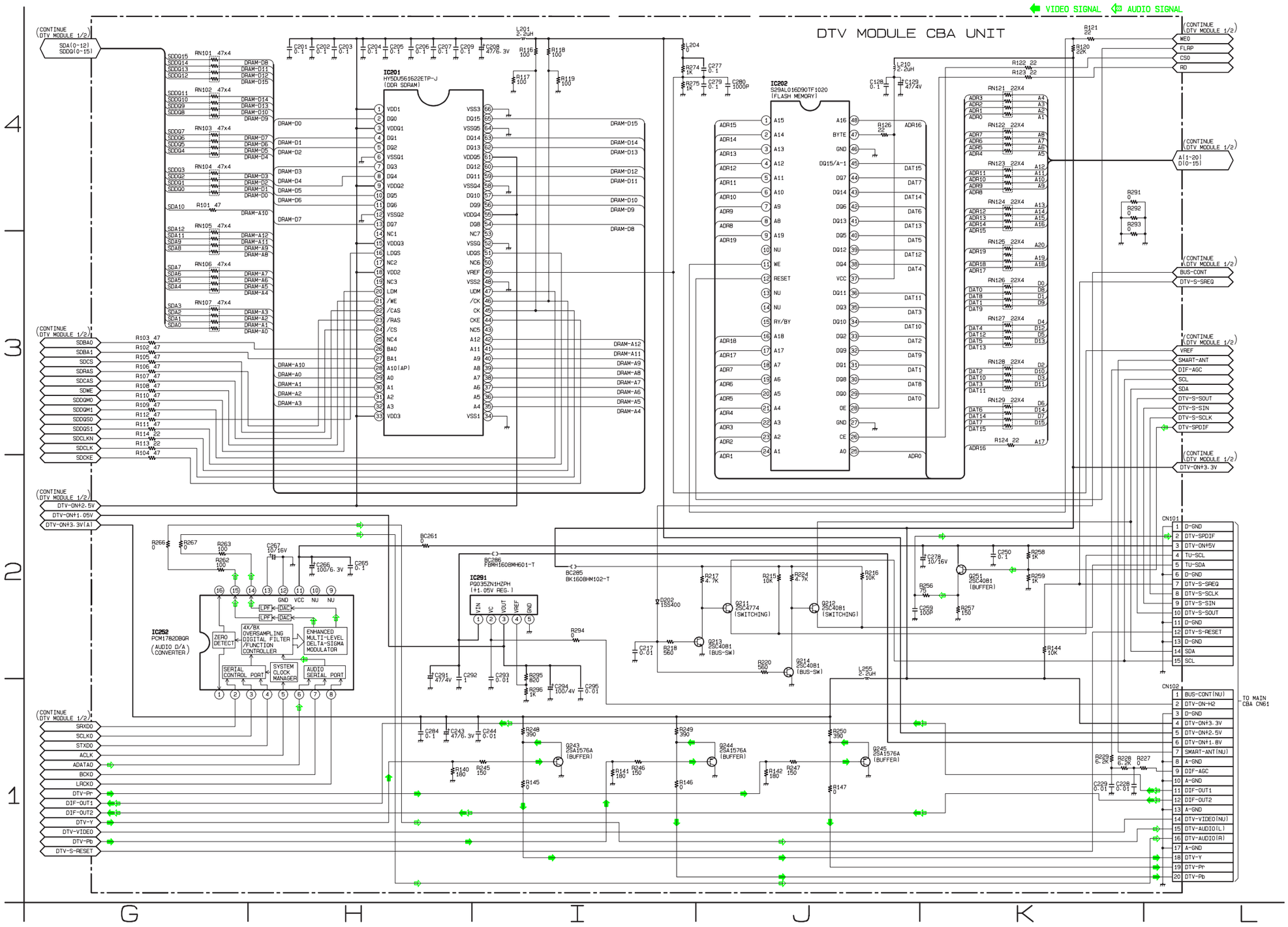
IR Sensor & Junction Schematic Diagram



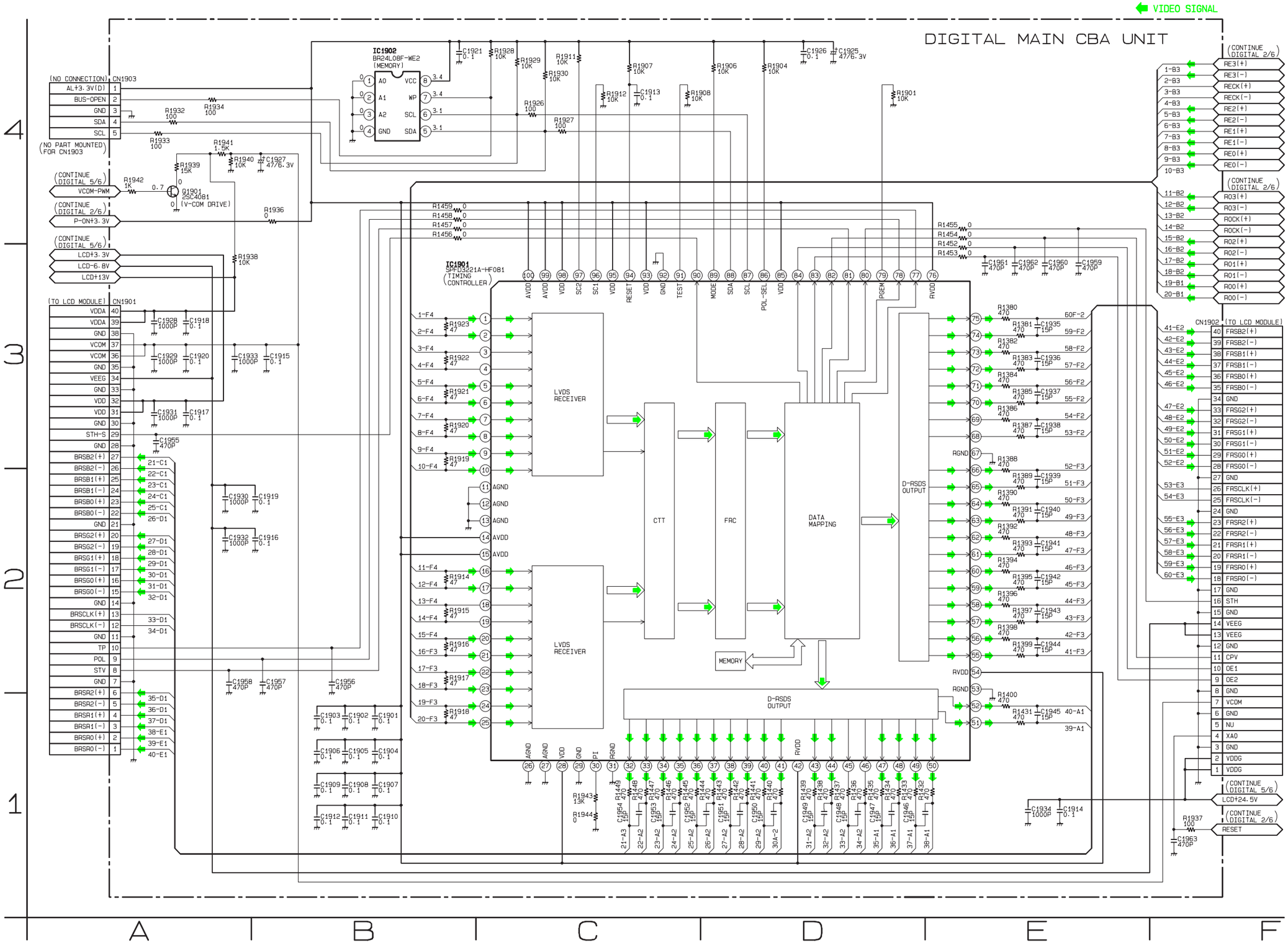
DTV Module 1/2 Schematic Diagram



DTV Module 2/2 Schematic Diagram

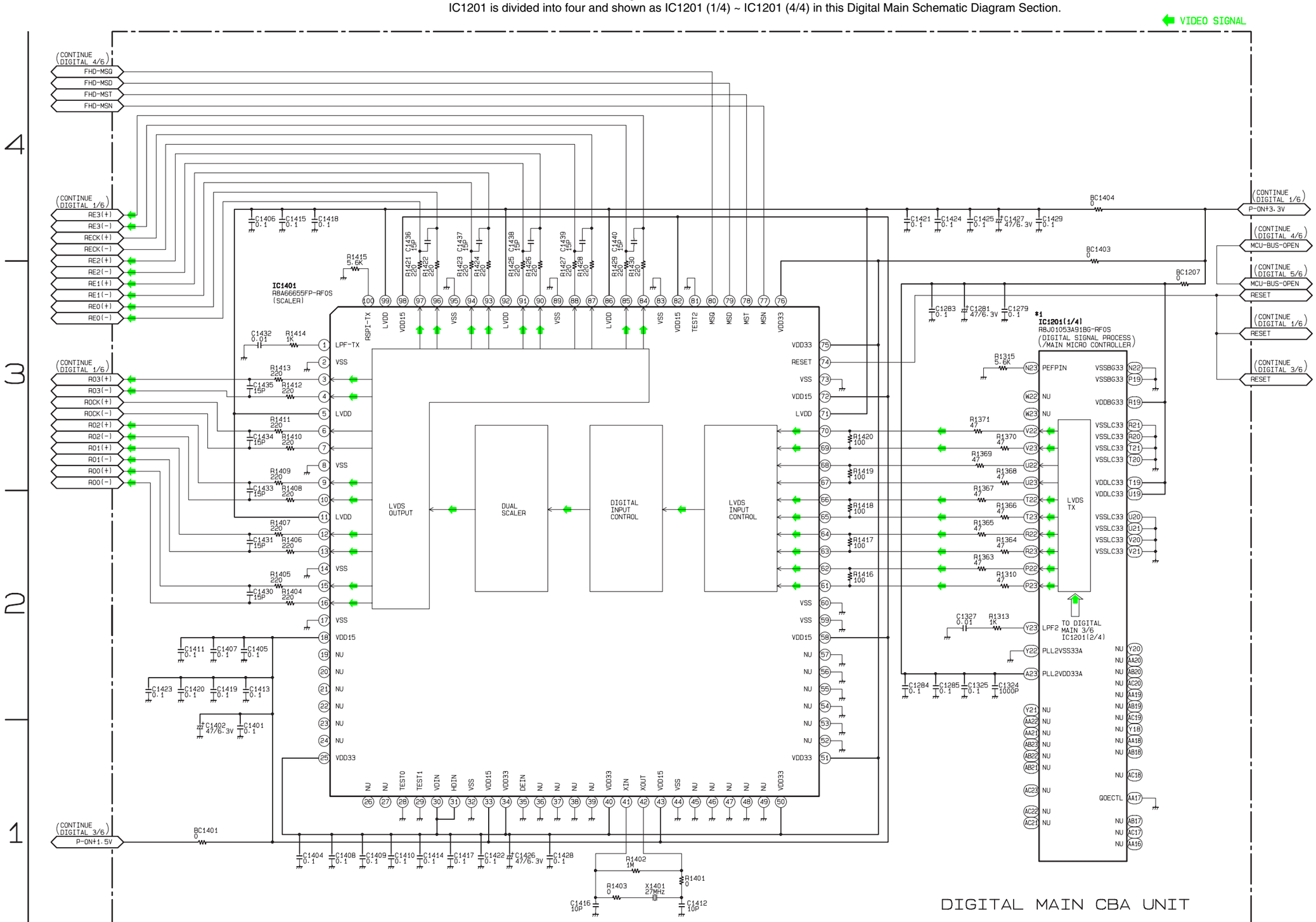


Digital Main 1/6 Schematic Diagram



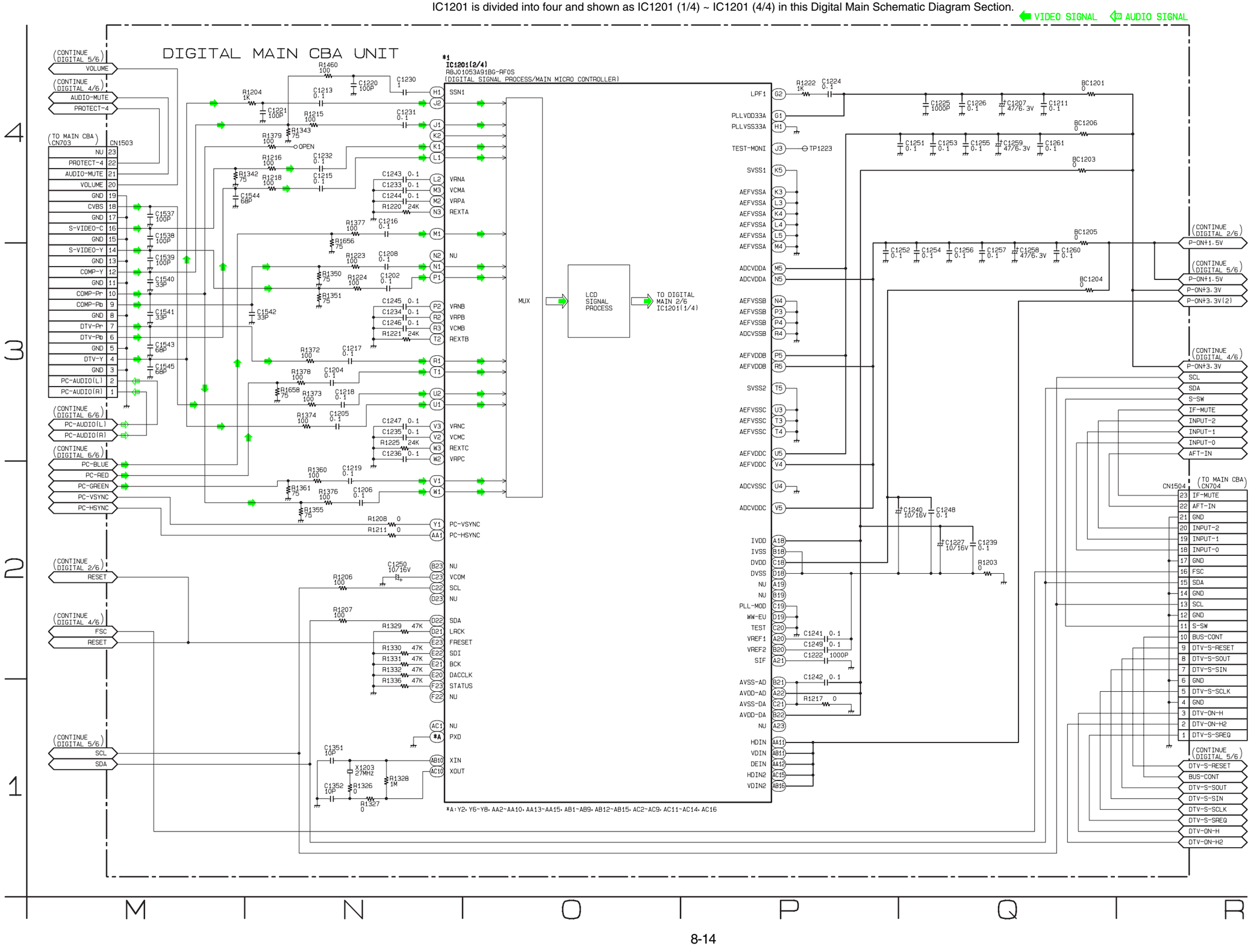
Digital Main 2/6 Schematic Diagram

∗1 NOTE:
The order of pins shown in this diagram is different from that of actual IC1201.
IC1201 is divided into four and shown as IC1201 (1/4) ~ IC1201 (4/4) in this Digital Main Schematic Diagram Section.



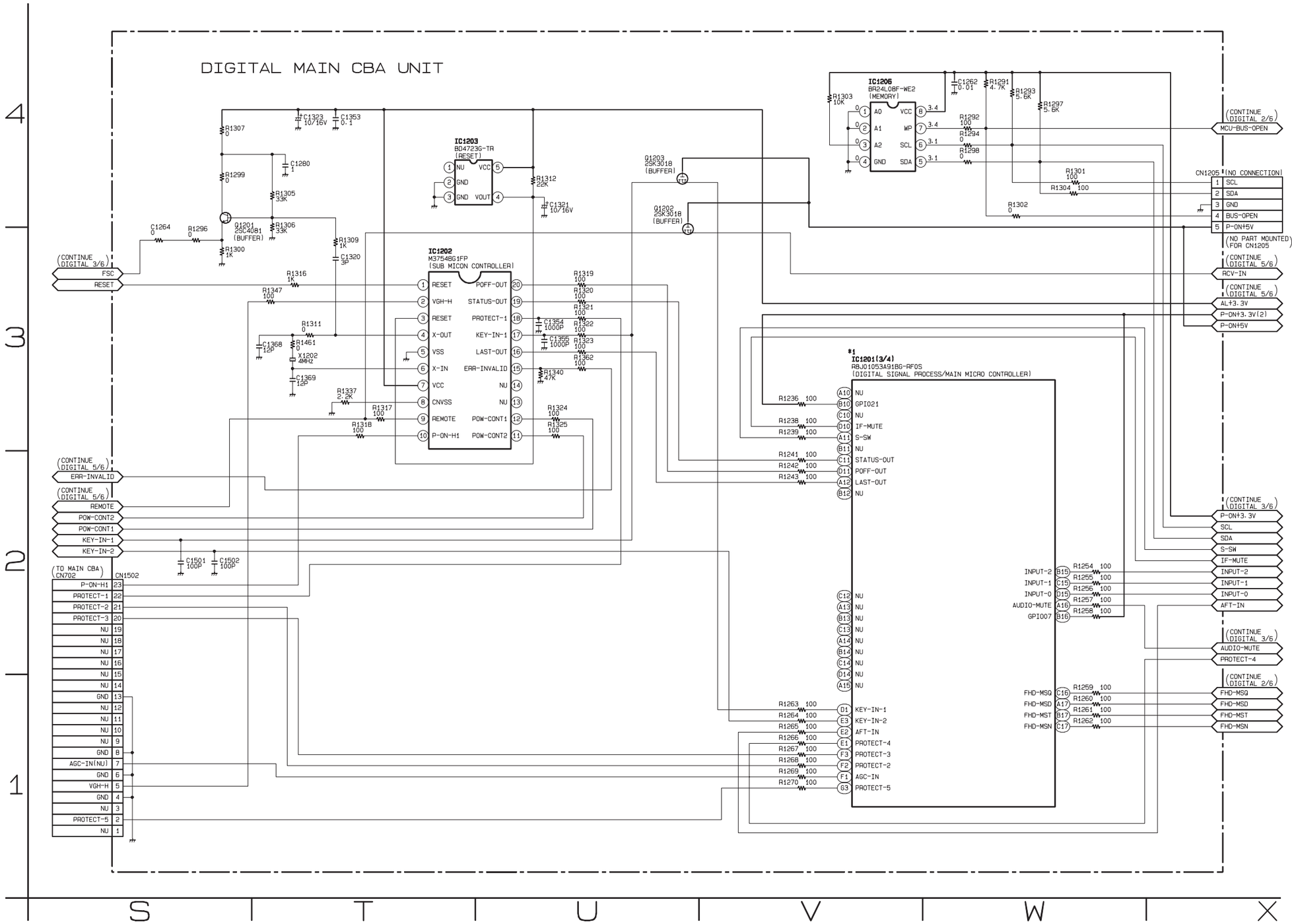
Digital Main 3/6 Schematic Diagram

∗1 **NOTE:**
The order of pins shown in this diagram is different from that of actual IC1201.
IC1201 is divided into four and shown as IC1201 (1/4) ~ IC1201 (4/4) in this Digital Main Schematic Diagram Section.



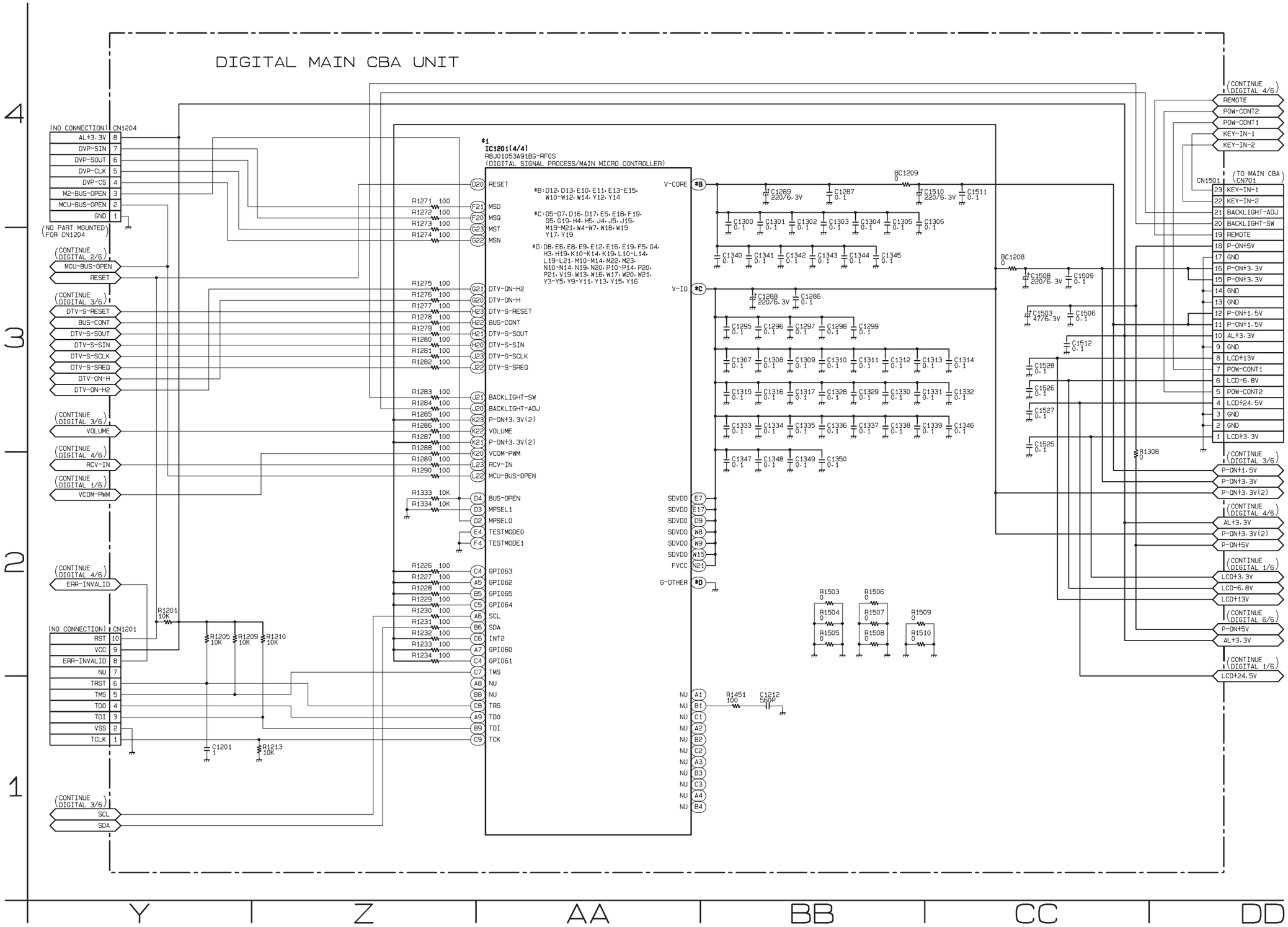
Digital Main 4/6 Schematic Diagram

∗1 NOTE:
The order of pins shown in this diagram is different from that of actual IC1201.
IC1201 is divided into four and shown as IC1201 (1/4) ~ IC1201 (4/4) in this Digital Main Schematic Diagram Section.

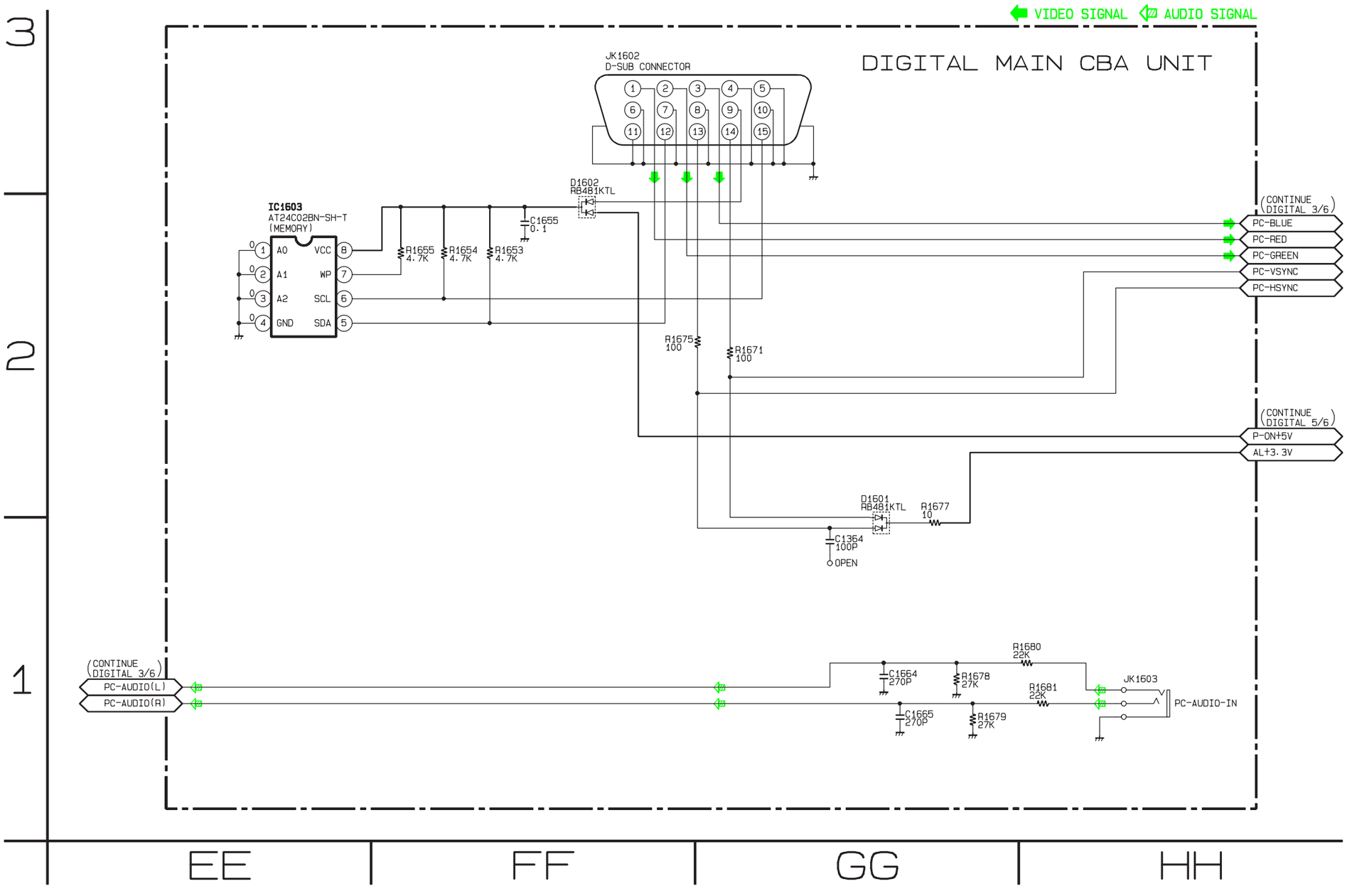


Digital Main 5/6 Schematic Diagram

∗1 NOTE:
The order of pins shown in this diagram is different from that of actual IC1201.
IC1201 is divided into four and shown as IC1201 (1/4) ~ IC1201 (4/4) in this Digital Main Schematic Diagram Section.



Digital Main 6/6 Schematic Diagram



Main CBA Top View

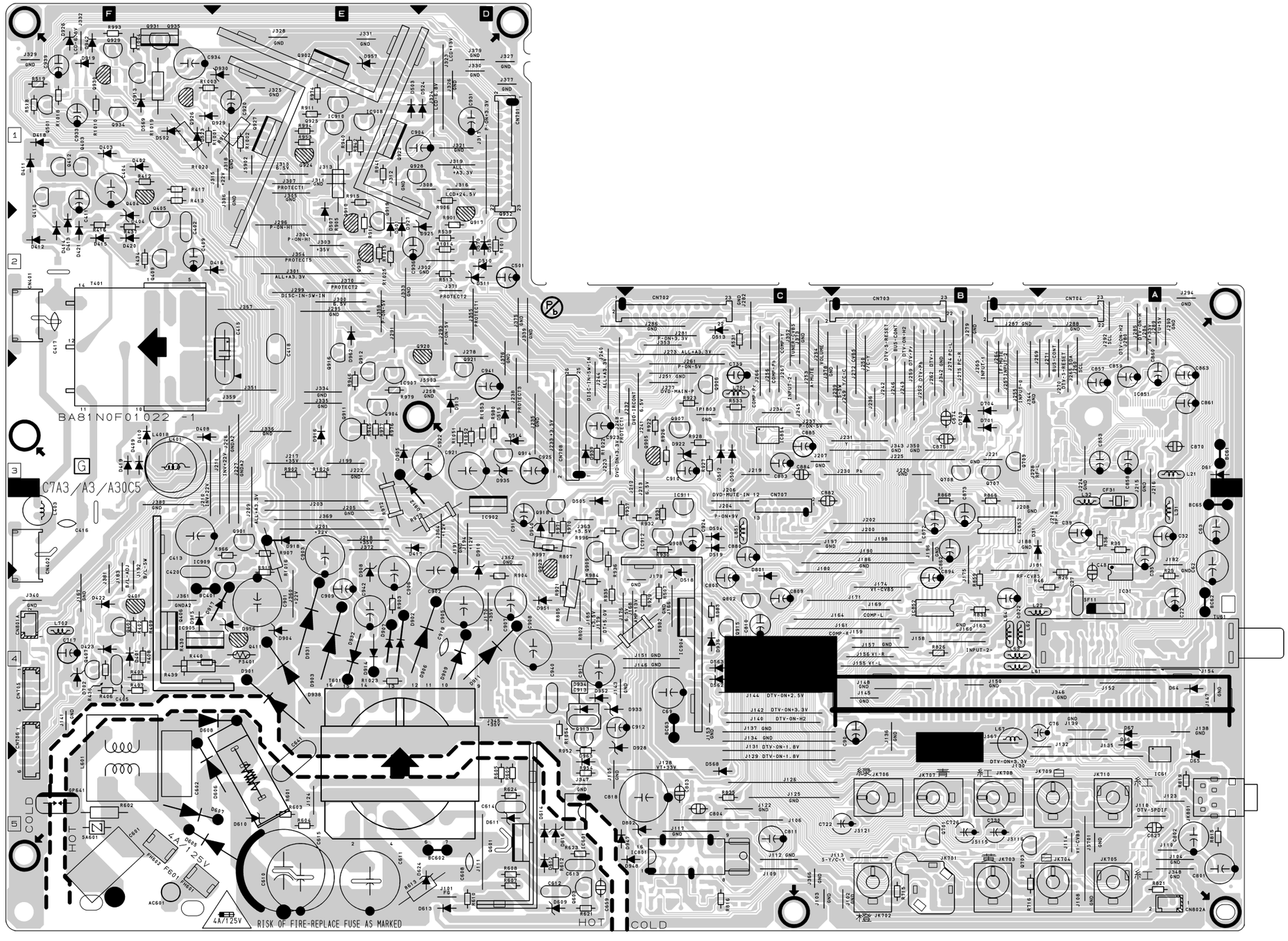
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

4A/125V

CAUTION ! : For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.
ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

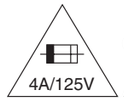
NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly,when troubleshooting this type power supply circuit, a variable isolation transformer is required.



Main CBA Bottom View

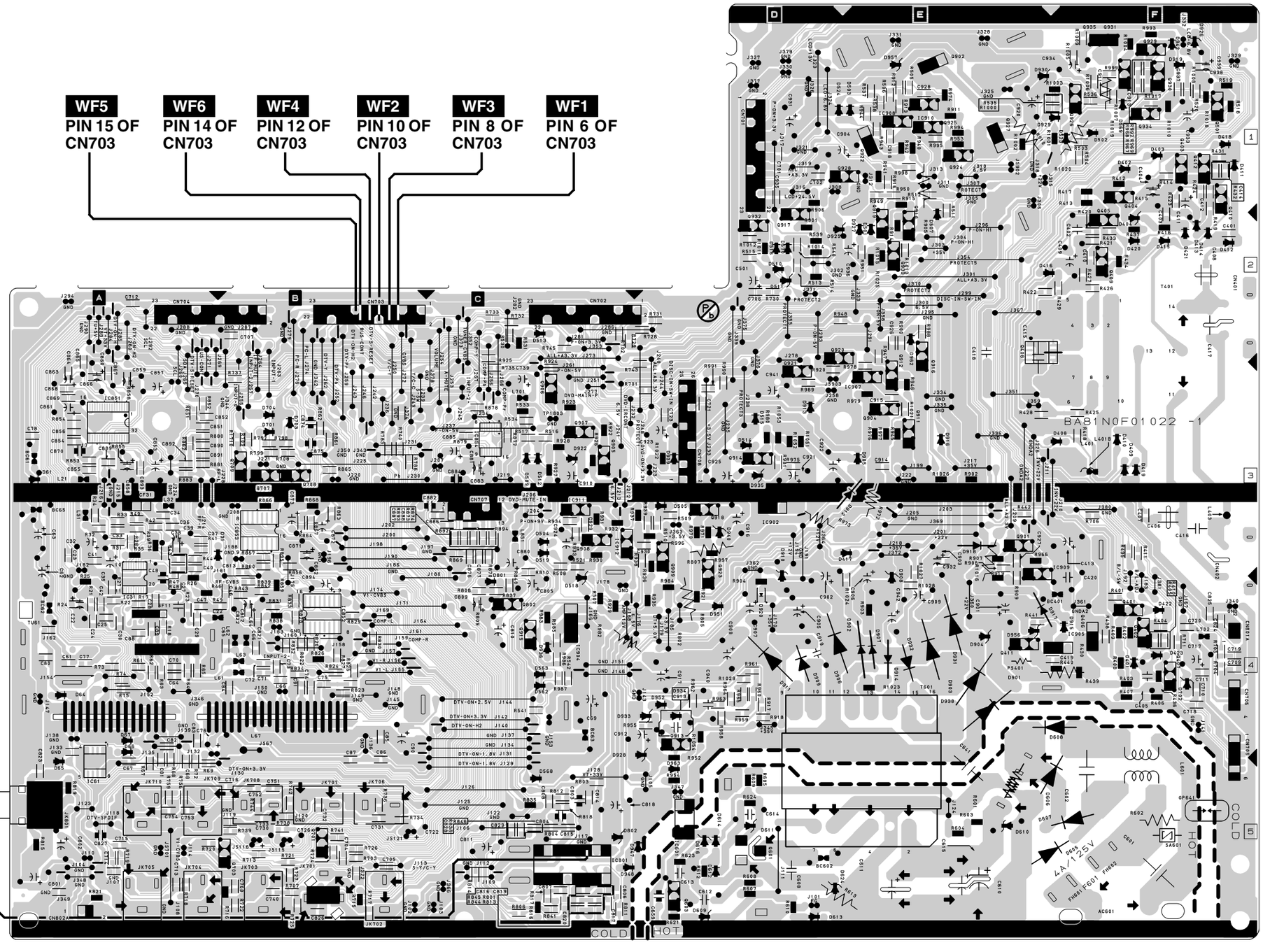
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.



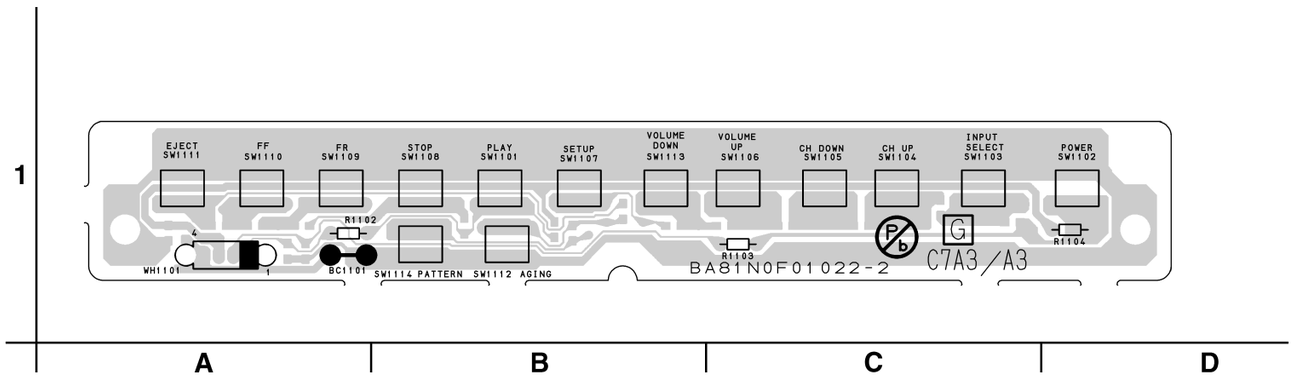
CAUTION ! : For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.
ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

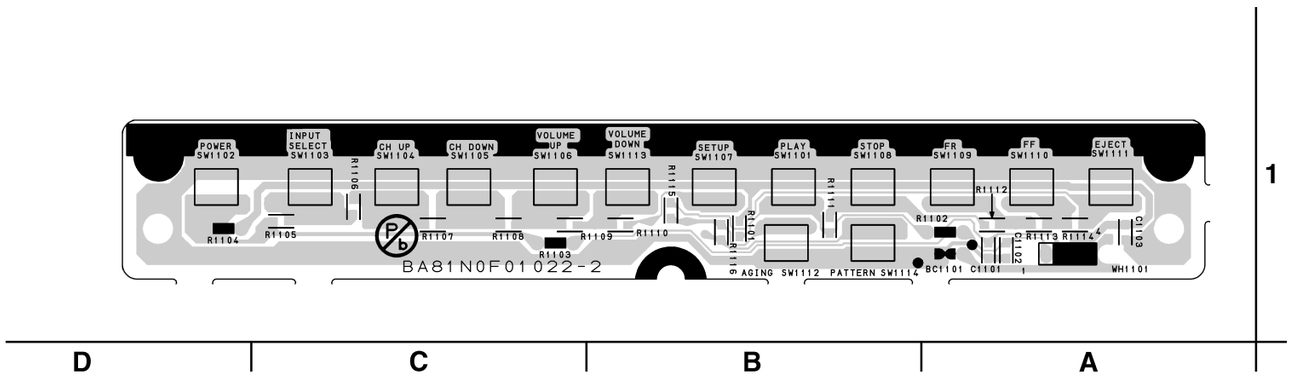
Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly,when troubleshooting this type power supply circuit, a variable isolation transformer is required.



Function CBA Top View

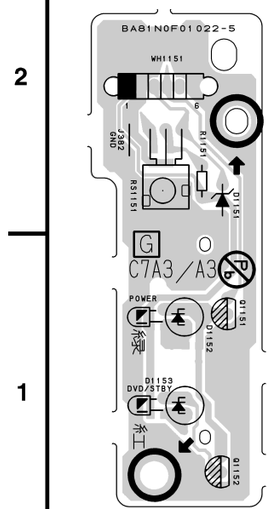


Function CBA Bottom View

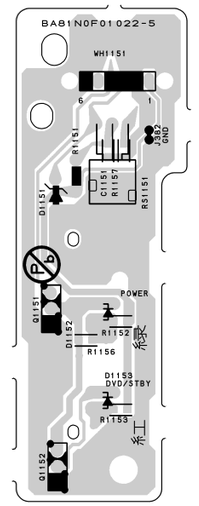


BA81N0F01022-2

IR Sensor CBA Top View

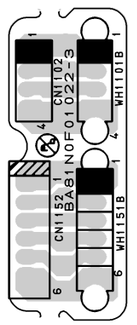


IR Sensor CBA Bottom View

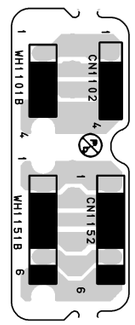


BA81N0F01022-5

Junction CBA Top View



Junction CBA Bottom View



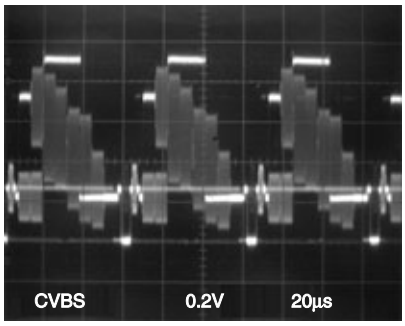
BA81N0F01022-3

WAVEFORMS

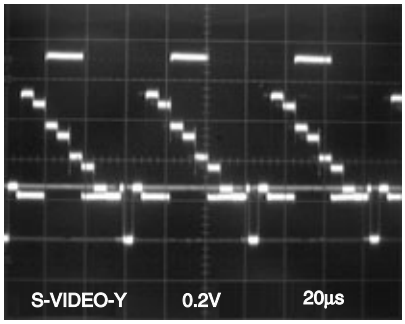
WF1 ~ WF7 = Waveforms to be observed at Waveform check points. (Shown in Schematic Diagram.)

Input: NTSC Color Bar Signal (with 1kHz Audio Signal)

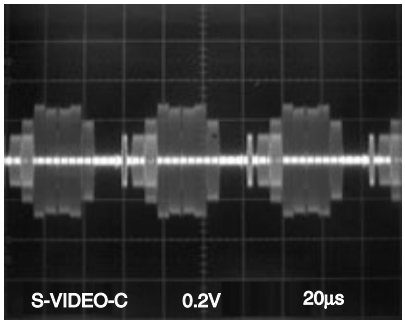
WF1 Pin 6 of CN703



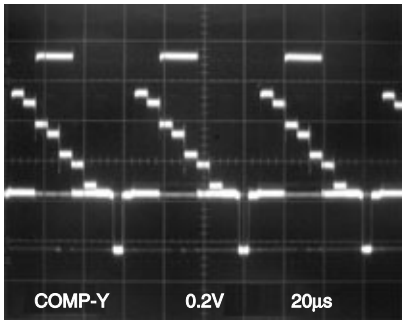
WF2 Pin 10 of CN703



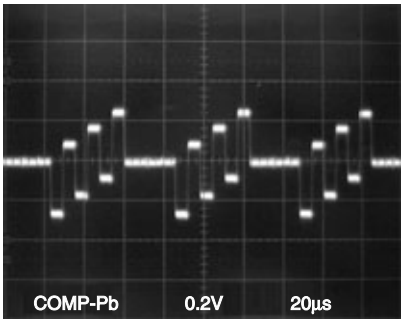
WF3 Pin 8 of CN703



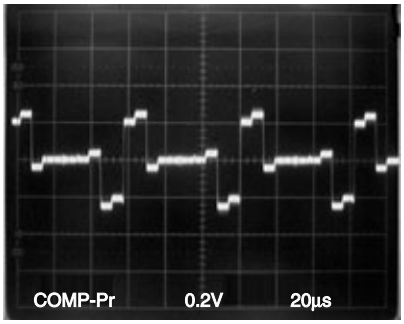
WF4 Pin 12 of CN703



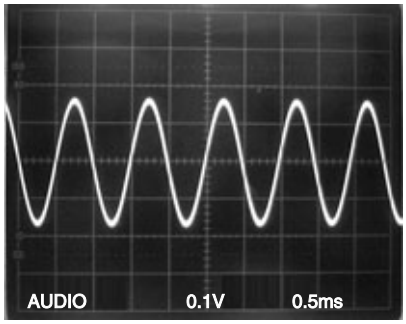
WF5 Pin 15 of CN703



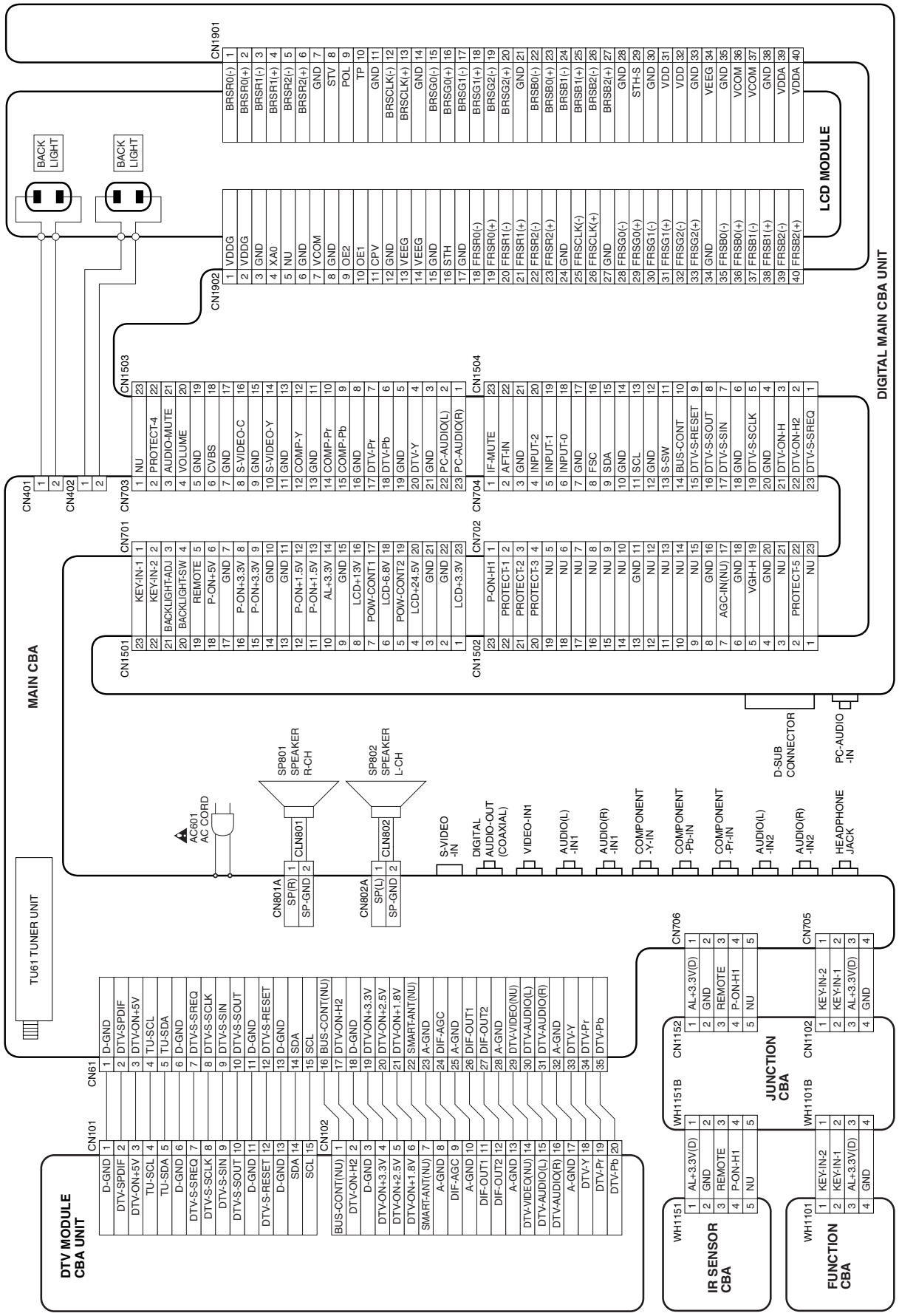
WF6 Pin 14 of CN703



WF7 Pin 14 of IC801

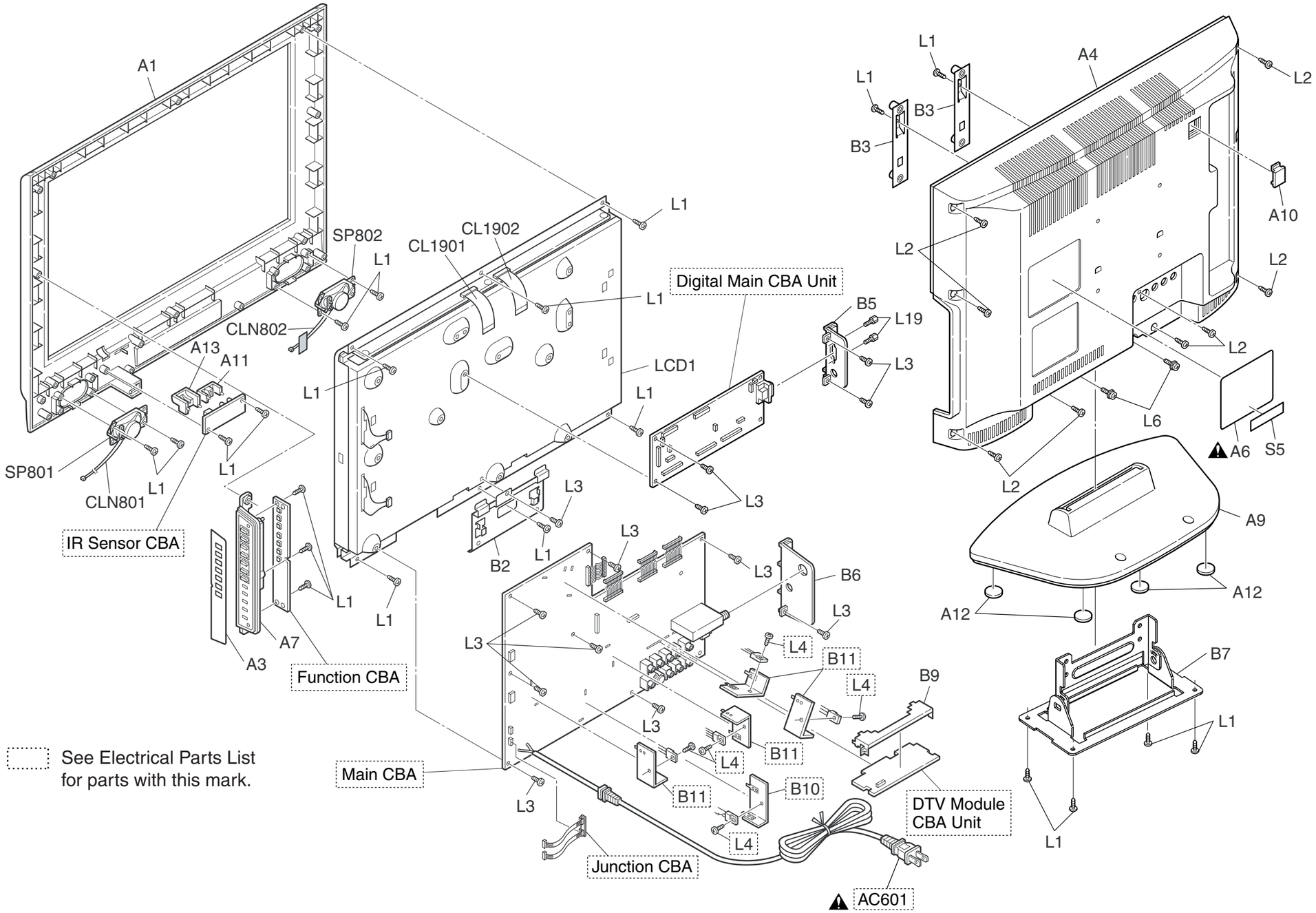


WIRING DIAGRAM



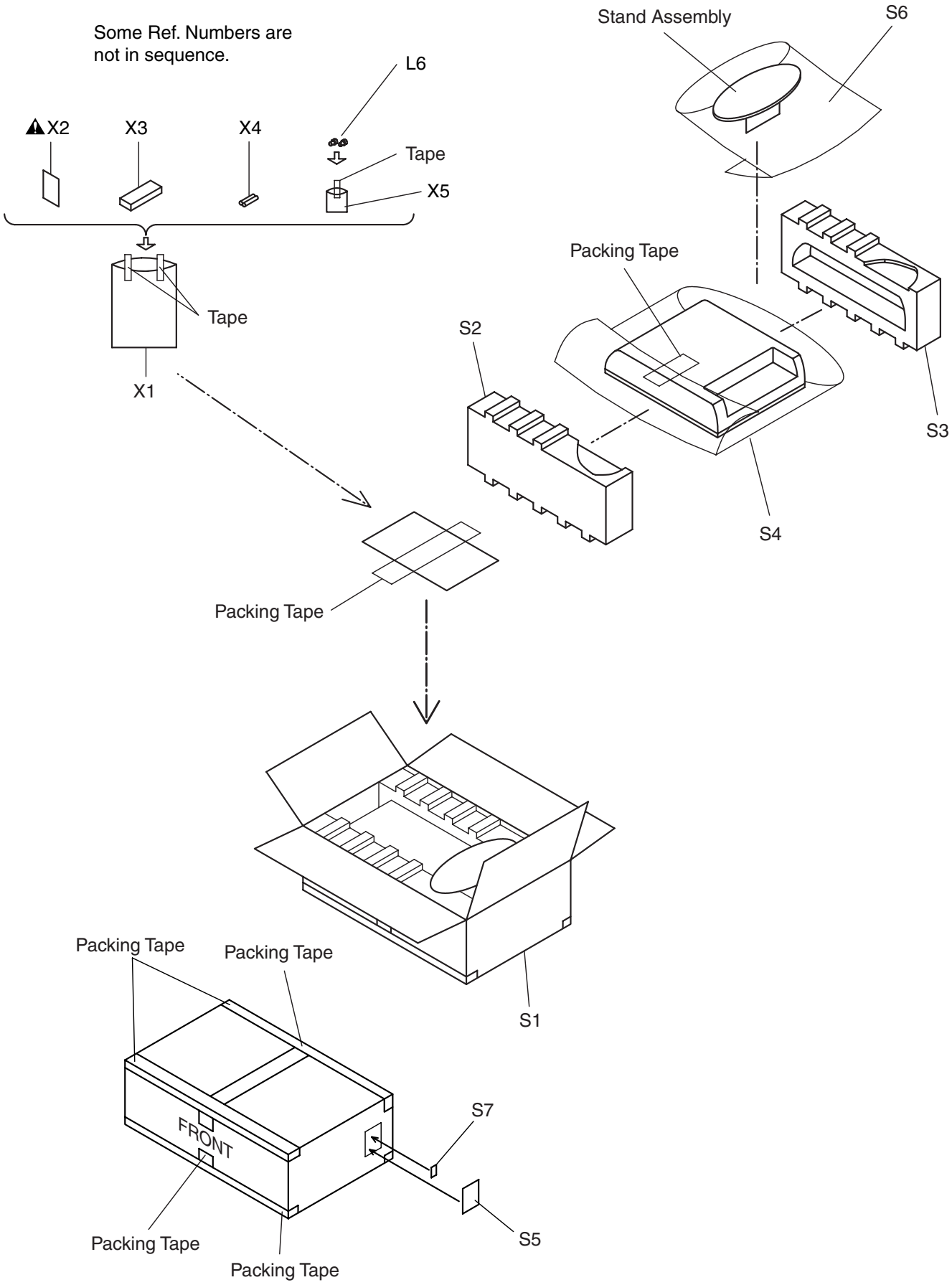
EXPLODED VIEWS

Cabinet



See Electrical Parts List for parts with this mark.

Packing


Some Ref. Numbers are not in sequence.
L6
⚠X2
X3
X4
Tape
X5
Tape
X1
Stand Assembly
S6
Packing Tape
S2
S3
S4
Packing Tape
Packing Tape
Packing Tape
Packing Tape
S1
FRONT
S7
S5
Packing Tape
Packing Tape

MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTE: Parts that are not assigned part numbers (---------) are not available.

Ref. No.	Description	Part No.
A1	FRONT CABINET A81N5UH	1EM122175
A3	CONTROL PLATE A81H0UH	1EM322723
A4	REAR CABIET A81N2UH	1EM021845
A6⚠	RATING LABEL A81N5UH	---------
A7	FUNCTION KNOB A81H0UH	1EM121947
A9	STAND COVER A81N5UH	1EM221884
A10	REAR COVER A7260JH	1EM322484
A11	LED LENS A81N0UH	1EM322707
A12	STAND RUBBER FOOT L5001CB	1EM423855
A13	SENSOR LENS A81N0UH	1EM322708
B2	TILT STAND HOLDER A81N0UH	1EM322710
B3	STAND HOLDER A81N0UH	1EM322709
B5	JACK HOLDER(D) A81N0UH	1EM322706A
B6	JACK HOLDER(A) A81N0UH	1EM322705
B7	ARM ASSEMBLY A72N0JH	1EM221634
B9	MODULE PCB HOLDER P7150UT	1EM322373A
CL1901	WIRE ASSEMBLY FFC FFC 40PIN	WX1A81N0-01A
CL1902	WIRE ASSEMBLY FFC FFC 40PIN	WX1A81N0-01A
CLN801	WIRE ASSEMBLY SPEAKER 2PIN AWG24	WX1A81N0-05A
CLN802	WIRE ASSEMBLY SPEAKER 2PIN AWG24	WX1A81N0-05A
L1	SCREW P-TIGHT M3X10 BIND HEAD+	GBJP3100
L2	SCREW P-TIGHT 3X10 BIND HEAD+	GBHP3100
L3	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
L6	DOUBLE SEMS SCREW M4X14 + BLK	FPH34140
L19	HEX SCREW #4-40 7MM	1EM422042
LCD1	LCD MODULE 19INCH WIDE SVA 19INCH WXGA	UG190XB
SP801	SPEAKER MAGNETIC S0306N01	DSD0806XQ001
SP802	SPEAKER MAGNETIC S0306N01	DSD0806XQ001
PACKING		
S1	CARTON A81N5UH	1EM323537A
S2	STYROFOAM BOTTOM A81N0UH	1EM021790
S3	STYROFOAM TOP A81N0UH	1EM021789
S4	SET BAG A81N0UH	1EM322872A
S5	RFID LABEL P7100UM	---------
S6	STAND BAG A81N0UH	1EM424597
S7	LABEL EAS(H3761UD) MAKER NO.ZLLFNSLE1	---------
ACCESSORIES		
X1	BAG POLYETHYLENE 235X365XT0.03	0EM408420A
X2⚠	OWNERS MANUAL A81N5UH	1EMN22719A
X3	REMOTE CONTROL NF604UD NF604UD	NF604UD
X4	DRY BATTERY(SUNRISE) R6SSE/2S	XB0M451MS002
X5	SCREW BAG A81N0UH	1EM424596A

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTES:

1. Parts that are not assigned part numbers (---------) are not available.
2. Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25% D.....±0.5% F.....±1%

G.....±2% J.....±5% K.....±10%

M.....±20% N.....±30% Z.....+80/-20%

DTV MODULE CBA UNIT

Ref. No.	Description	Part No.
	DTV MODULE CBA UNIT	1ESA14957

DIGITAL MAIN CBA UNIT

Ref. No.	Description	Part No.
	DIGITAL MAIN CBA UNIT	1ESA15449

MMA CBA

Ref. No.	Description	Part No.
	MMA CBA Consists of the following:	1ESA15446
	MAIN CBA FUNCTION CBA IR SENSOR CBA JUNCTION CBA	---------- ---------- ---------- ----------

MAIN CBA

Ref. No.	Description	Part No.
	MAIN CBA Consists of the following:	----------
	CAPACITORS	
C22	ELECTROLYTIC CAP. 100μF/10V M	CE1AMASDL101
C23	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C24	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C25	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C27	POLYESTER FILM CAP. (PB FREE) 0.018μF/100V J	CA2A183DT018
C28	CHIP CERAMIC CAP.(1608) B K 0.047μF/50V	CHD1JK30B473
C29	CHIP CERAMIC CAP. CH D 5pF/50V	CHD1JD3CH5R0
C32	ELECTROLYTIC CAP. 100μF/10V M	CE1AMASDL101
C34	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C35	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C36	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C37	CHIP CERAMIC CAP. CH J 680pF/50V	CHD1JJ3CH681
C39	ELECTROLYTIC CAP. 0.47μF/50V M	CE1JMASDLR47
C41	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C42	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C46	CHIP CERAMIC CAP. F Z 2.2μF/10V	CHD1AZ30F225
C47	CHIP CERAMIC CAP. CH D 8pF/50V	CHD1JD3CH8R0
C62	ELECTROLYTIC CAP. 100μF/10V M	CE1AMASDL101
C63	ELECTROLYTIC CAP. 47μF/50V M	CE1JMASDL470
C64	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C67	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C68	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C69	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASDL102
C70	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C71	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C72	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C74	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C75	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C77	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C80	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C83	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
C84	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C85	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331
C86	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331
C87	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C89	CHIP CERAMIC CAP. CH J 220pF/50V	CHD1JJ3CH221
C90	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMASSL100
C91	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C401	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C402	POLYESTER FILM CAP. (PB FREE) 0.1μF/100V J	CA2A104DT018
C403	CHIP CERAMIC CAP.(1608) B K 5600pF/50V	CHD1JK30B562
C404	ELECTROLYTIC CAP. 220μF/16V M	CE1CMASDL221
C405	POLYESTER FILM CAP. (PB FREE) 0.1μF/100V J	CA2A104DT018
C406	CAP CHIP 5pF 3KV C XC	CA3F5R05M016
C407	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C408	CAP CHIP 5pF 3KV C XC	CA3F5R05M016
C409	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C410	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C411	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C412	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C413	ELECTROLYTIC CAP. 470μF/25V M	CE1EMASDL471
C414	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C415	CAP METALIZED FILM 0.11μF 250V H MPE	CA2E114DT051
C416	CAP CERAMIC HV 12P 3KV SL J	CCD3FJPSL120
C417	CAP CERAMIC HV 12P 3KV SL J	CCD3FJPSL120
C419	CHIP CERAMIC CAP. B K 0.68μF/10V	CHD1AK30B684
C420	TF CAP. 0.56μF/50V	CT1J564MS045
C501	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMASSL100
C601⚠	METALIZED FILM CAP. 0.22μF/250V	CT2E224MS037
C608	CERAMIC CAP. B K 1000pF/2KV	CA3D102MR030
C612	POLYESTER FILM CAP. (PB FREE) 0.027μF/100V J	CA2A273DT018
C613	POLYESTER FILM CAP. (PB FREE) 0.068μF/100V J	CA2A683DT018
C614	POLYESTER FILM CAP. (PB FREE) 0.001μF/100V J	CA2A102DT018
C615	CAP ELE LS 270μF/200V/M/85	CA2D271V8006
C641⚠	SAFETY CAP. 4700pF/250V KX	CA2E472MR050
C701	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C702	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C705	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C706	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C707	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C708	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C710	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331

Ref. No.	Description	Part No.
C711	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C712	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C713	CHIP CERAMIC CAP. B K 1500pF/50V	CHD1JK30B152
C714	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C715	CHIP CERAMIC CAP. B K 1500pF/50V	CHD1JK30B152
C716	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C717	ELECTROLYTIC CAP. 47μF/10V M H7	CE1AMASSL470
C718	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331
C720	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C751	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C752	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C753	CHIP CERAMIC CAP.(1608) B K 3300pF/50V	CHD1JK30B332
C754	CHIP CERAMIC CAP.(1608) B K 3300pF/50V	CHD1JK30B332
C801	ELECTROLYTIC CAP. 220μF/16V M H7	CE1CMASSL221
C802	ELECTROLYTIC CAP. 220μF/16V M H7	CE1CMASSL221
C805	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C806	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C807	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C809	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C810	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C811	ELECTROLYTIC CAP. 100μF/16V M	CE1CMASDL101
C812	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C813	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C816	CHIP CERAMIC CAP. CH J 680pF/50V	CHD1JJ3CH681
C817	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C818	ELECTROLYTIC CAP. 2200μF/16V M	CE1CMZNDL222
C819	CHIP CERAMIC CAP. CH J 680pF/50V	CHD1JJ3CH681
C820	CHIP CERAMIC CAP. CH J 680pF/50V	CHD1JJ3CH681
C821	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C822	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C823	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C824	CHIP CERAMIC CAP. CH J 180pF/50V	CHD1JJ3CH181
C825	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C826	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C827	CERAMIC CAP.(AX) F Z 0.1μF/50V	CCA1JZTFZ104
C828	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C829	CHIP CERAMIC CAP. CH J 680pF/50V	CHD1JJ3CH681
C853	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C854	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C855	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C856	CHIP CERAMIC CAP.(1608) B K 0.33μF/10V	CHD1AK30B334
C857	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C858	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C859	ELECTROLYTIC CAP. 4.7μF/50V M	CE1JMASDL4R7
C860	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C861	ELECTROLYTIC CAP. 100μF/10V M	CE1AMASDL101
C862	ELECTROLYTIC CAP. 10μF/16V M	CE1CMASDL100
C863	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C864	CHIP CERAMIC CAP.(1608) B K 0.022μF/25V	CHD1EK30B223
C865	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C866	CHIP CERAMIC CAP. F Z 2.2μF/10V	CHD1AZ30F225
C867	CHIP CERAMIC CAP. F Z 2.2μF/10V	CHD1AZ30F225
C868	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C869	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	CHD1JK30B223
C871	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C874	CAP. CERAMIC B K 1μF/16V	CA1C105TU019
C875	CAP. CERAMIC B K 1μF/16V	CA1C105TU019
C889	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C890	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C891	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C892	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C893	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C894	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100

Ref. No.	Description	Part No.
C901	ELECTROLYTIC CAP. 2200μF/25V M	CE1EMZNDL222
C902	ELECTROLYTIC CAP. 470μF/25V M	CE1EMASDL471
C903	ELECTROLYTIC CAP. 1000μF/16V M	CE1CMZNDL102
C904	ELECTROLYTIC CAP. 220μF/6.3V M	CE0KMASTL221
C905	ELECTROLYTIC CAP. 1000μF/16V M	CE1CMZNDL102
C907	ELECTROLYTIC CAP. 100μF/50V M	CE1JMASDL101
C908	ELECTROLYTIC CAP. 1000μF/10V M	CE1AMASDL102
C909	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C910	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C911	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C912	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C913	POLYESTER FILM CAP. (PB FREE) 0.0027μF/ 100V J	CA2A272DT018
C916	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C917	ELECTROLYTIC CAP. 1000μF/10V M	CE1AMASDL102
C918	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C919	CERAMIC CAP. B K 1000pF/1KV	CCD3AKP0B102
C920	CAP ELE SML-105 47μF 16V M 105	CE1CMASTJ470
C924	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C926	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C927	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C928	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C929	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C930	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C931	ELECTROLYTIC CAP. 220μF/6.3V M	CE0KMASTL221
C932	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C934	ELE.CAP 220μF/16V M(105C)	CE1CMASTJ221
C935	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C936	ELECTROLYTIC CAP. 22μF/50V M	CE1JMASDL220
C937	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C938	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C939	ELECTROLYTIC CAP. 10μF/16V M	CE1CMASDL100
C940	CAP POLYESTER FILM 0.22μF 50V J	CA1J224SER04
C942	ELECTROLYTIC CAP. 220μF/16V M	CE1CMASDL221
	CONNECTORS	
CN401	CONNECTOR PRINT OSU KW04-800-0200	J30402KET001
CN402	CONNECTOR PRINT OSU KW04-800-0200	J30402KET001
CN701	TWG CONNECTOR 23P TWG-P23P-A1	J3TWA23TG001
CN702	TWG CONNECTOR 23P TWG-P23P-A1	J3TWA23TG001
CN703	TWG CONNECTOR 23P TWG-P23P-A1	J3TWA23TG001
CN704	TWG CONNECTOR 23P TWG-P23P-A1	J3TWA23TG001
CN705	242 SERIES CONNECTOR 224202104W1	J322C04TG001
CN706	242 SERIES CONNECTOR 224202106W1	J322C06TG001
CN801A	CONNECTOR PRINT OSU 008283021200000S+	J383C02UG004
CN802A	CONNECTOR PRINT OSU 008283021200000S+	J383C02UG004
	DIODES	
D31	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D401	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D402	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D403	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D404	ZENER DIODE MTZJT-774.3B	QDTB0MTZJ4R3
D408	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D409	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D410	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D411	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D412	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D413	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D414	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D415	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D416	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D417	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133

Ref. No.	Description	Part No.
D418	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D419	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D420	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D421	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D422	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D423	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D501	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D502	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D503	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D504	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D507	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D509	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D510	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D511	ZENER DIODE MTZJT-7739B	QDTB00MTZJ39
D512	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D513	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D516	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D518	ZENER DIODE MTZJT-776.2B	QDTB0MTZJ6R2
D519	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D523	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D524	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D562	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D563	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D568	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D569	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D570	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D605⚠	DIODE 1N5397-B	NDLZ001N5397
D606⚠	DIODE 1N5397-B	NDLZ001N5397
D607⚠	DIODE 1N5397-B	NDLZ001N5397
D608⚠	DIODE 1N5397-B	NDLZ001N5397
D609	ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D611⚠	ZENER DIODE MTZJT-7722B	QDTB00MTZJ22
D612	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D613	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D614	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D616⚠	ZENER DIODE MTZJT-7733B	QDTB00MTZJ33
D624⚠	ZENER DIODE MTZJT-7739B	QDTB00MTZJ39
D702	ZENER DIODE MTZJT-773.9B	QDTB0MTZJ3R9
D801	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D802	ZENER DIODE MTZJT-7712B	QDTB00MTZJ12
D901	SCHOTTKY BARRIER DIODE ERC84-009	QDLZERC84009
D902	RECTIFIER DIODE FR202-B/P	NDQZ000FR202
D903	SCHOTTKY BARRIER DIODE ERC81-004	QDPZERC81004
D904	ZENER DIODE MTZJT-7724B	QDTB00MTZJ24
D906	SCHOTTKY BARRIER DIODE ERA81-004Q	QDLZRA81004Q
D909	DIODE FR154	NDLZ000FR154
D910	DIODE 1ZC43(Q)	QDLZ001ZC43Q
D911	SCHOTTKY BARRIER DIODE ERC81-004	QDPZERC81004
D914	DIODE FR104-B	NDLZ000FR104
D915	PCB JUMPER D0.6-P5.0	JW5.0T
D916	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D917	SCHOTTKY BARRIER DIODE ERA81-004Q	QDLZRA81004Q
D918	PCB JUMPER D0.6-P10.0	JW10.0T
D919	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D922	ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D925	ZENER DIODE MTZJT-7724B	QDTB00MTZJ24
D926	ZENER DIODE MTZJT-776.2B	QDTB0MTZJ6R2
D927	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D928	ZENER DIODE MTZJT-7733B	QDTB00MTZJ33
D929	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D930	ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D932	DIODE FR154	NDLZ000FR154
D933	ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6

Ref. No.	Description	Part No.
D934	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D940	ZENER DIODE MTZJT-7710B	QDTB00MTZJ10
D942	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D947	PCB JUMPER D0.6-P5.0	JW5.0T
D948	PCB JUMPER D0.6-P5.0	JW5.0T
D951	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D952	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D956	ZENER DIODE MTZJT-7712B	QDTB00MTZJ12
D957	ZENER DIODE MTZJT-773.9B	QDTB0MTZJ3R9
D962	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D963	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
ICS		
IC31	IC VIF/SIF M61116FP TF0G	QSZBA0SHT034
IC61	IC EEPROM AT24C128N-10SU-1.8 S	NSZBA0TAZ083
IC601⚠	PHOTO COUPLER LTV817MCF	NPECLTV817MF
IC801	IC AN17812A	QSZBA0SMS017
IC851	IC MTS DECORDER AN5832SA-E1V	QSZBA0TMS003
IC852	IC SWITCHING TC4052BF(ELNF)	QSZBA0TTS162
IC853	IC SWITCH TC4053BF(EL N F)	QSZBA0TTS163
IC904	VOLTAGE REGULATOR PQ070XF01SZH	QSZBA0SSH054
IC905	IC VOLTAGE REGULATOR 5V KIA7805API/P	NSZBA0SJY041
IC908	SHUNT REGULATOR KIA2431AP-AT/P	NSZBA0TJY054
IC909	IC SHUNT REGULATOR KIA431-AT/P	NSZBA0TJY036
IC910	IC SHUNT REGULATOR KIA431-AT/P	NSZBA0TJY036
IC911	IC SHUNT REGULATOR KIA431-AT/P	NSZBA0TJY036
IC912	IC SHUNT REGULATOR KIA431-AT/P	NSZBA0TJY036
IC913	IC SHUNT REGULATOR KIA431-AT/P	NSZBA0TJY036
COILS		
L21	PCB JUMPER D0.6-P5.0	JW5.0T
L22	INDUCTOR 100μH-J-26T	LLAXJATTU101
L31	PCB JUMPER D0.6-P5.0	JW5.0T
L32	INDUCTOR 18μH-J-26T	LLAXJATTU180
L61	PCB JUMPER D0.6-P5.0	JW5.0T
L63	PCB JUMPER D0.6-P5.0	JW5.0T
L66	INDUCTOR CHIP LK16081R0K-T 1.0μH	LLACKB3TU1R0
L401B	POWER INDUCTER RCR1616-471K	LLC471KSF009
L403	CHOKE COIL 22μH-K	LLBD00PKV021
L601⚠	LINE FILTER 5.0MH 6Y075	LLBG00ZKT004
L701	PCB JUMPER D0.6-P5.0	JW5.0T
L702	INDUCTOR 22μH-J-26T	LLAXJATTU220
L851	PCB JUMPER D0.6-P5.0	JW5.0T
TRANSISTORS		
Q401	TRANSISTOR 2SA950-O (TE2 F T)	QQS002SA950F
Q402	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q403	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q404	TRANSISTOR KTA1267-GR-AT/P	NQS1KTA1267P
Q405	TRANSISTOR 2SC2120-Y(TE2 F T)	QQSY2SC2120F
Q406	NPN TRANSISTOR POWER 2SC4881F HFE MAX320	QQWZ2SC4881F
Q407	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q408⚠	FET MOS SMD HAT2215R01-EL-E	QF2ZHAT2215R
Q409	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q410	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q411	TRANSISTOR KTA1267-GR-AT/P	NQS1KTA1267P
Q412	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q501	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q601⚠	FET MOS 2SK3563(Q)	QFWZ2SK3563Q
Q603⚠	TRANSISTOR 2SC2120-Y(TE2 F T)	QQSY2SC2120F
Q707	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q708	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q709	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q802	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q901	TRANSISTOR 2SC2120-Y(TE2 F T)	QQSY2SC2120F

Ref. No.	Description	Part No.
Q902	NPN TRANSISTOR POWER 2SC4881F HFE MAX320	QQWZ2SC4881F
Q905	TRANSISTOR 2SA950-O (TE2 F T)	QQS002SA950F
Q906	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q907	TRANSISTOR 2SC2120-Y(TE2 F T)	QQSY2SC2120F
Q908	TRANSISTOR 2SC2120-Y(TE2 F T)	QQSY2SC2120F
Q909	TRANSISTOR 2SC2120-Y(TE2 F T)	QQSY2SC2120F
Q910	TRANSISTOR 2SA950-O (TE2 F T)	QQS002SA950F
Q913	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q916	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q917	TRANSISTOR KTA1267-GR-AT/P	NQS1KTA1267P
Q918	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q919	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q922	NPN TRANSISTOR POWER 2SC4881F HFE MAX320	QQWZ2SC4881F
Q923	TRANSISTOR 2SA950-O (TE2 F T)	QQS002SA950F
Q924	TRANSISTOR 2SA950-O (TE2 F T)	QQS002SA950F
Q925	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q926	TRANSISTOR 2SA950-O (TE2 F T)	QQS002SA950F
Q927	NPN TRANSISTOR POWER 2SC4881F HFE MAX320	QQWZ2SC4881F
Q928	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q929	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q930	TRANSISTOR KTA1267-GR-AT/P	NQS1KTA1267P
Q932	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q933	TRANSISTOR KTA1267-GR-AT/P	NQS1KTA1267P
Q934	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q935	NPN TRANSISTOR POWER 2SC4881F HFE MAX320	QQWZ2SC4881F
	RESISTORS	
R17	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R18	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R21	CHIP RES. 1/10W J 150k Ω	RRXAJR5Z0154
R23	CHIP RES. 1/10W J 680 Ω	RRXAJR5Z0681
R24	CHIP RES. 1/10W J 820k Ω	RRXAJR5Z0824
R25	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R26	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R32	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R38	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R42	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R46	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R48	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R49	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R61	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R62	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R63	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R64	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R65	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R67	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R68	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R72	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R73	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R74	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R75	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R401	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R402	CARBON RES. 1/4W J 27k Ω	RCX4JATZ0273
R403	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R404	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R405	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R406	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R407	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R408	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R409	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R410	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103

Ref. No.	Description	Part No.
R411	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R412	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R413	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R414	CHIP RES. 1/10W J 47 Ω	RRXAJR5Z0470
R415	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R416	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R417	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R418	CHIP RES. 1/10W J 330 Ω	RRXAJR5Z0331
R419	CHIP RES. 1/10W J 330 Ω	RRXAJR5Z0331
R420	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R421	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R422	CHIP RES. 1/10W J 820k Ω	RRXAJR5Z0824
R423	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R424	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R425	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R426	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R427	CHIP RES. 1/10W J 560k Ω	RRXAJR5Z0564
R428	CHIP RES. 1/10W J 560k Ω	RRXAJR5Z0564
R429	CHIP RES. 1/10W J 820k Ω	RRXAJR5Z0824
R430	CARBON RES. 1/4W J 3.3 Ω	RCX4JATZ03R3
R431	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R432	CHIP RES. 1/10W J 820 Ω	RRXAJR5Z0821
R433	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R434	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R435	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R436	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R437	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R438	CHIP RES. 1/10W J 560 Ω	RRXAJR5Z0561
R439	METAL OXIDE FILM RES. 2W J 0.68 Ω	RN02R68DP004
R440	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R441	CHIP RES. 1/10W J 39k Ω	RRXAJR5Z0393
R442	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R503	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R504	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R505	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R506	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R507	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R508	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R511	CHIP RES. 1/10W J 680 Ω	RRXAJR5Z0681
R512	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R513	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R515	CHIP RES. 1/10W J 2.7k Ω	RRXAJR5Z0272
R516	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R517	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R518	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R519	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R520	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R521	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R530	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R531	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R533	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R534	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R535	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R536	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R537	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R539	CARBON RES. 1/4W J 18k Ω	RCX4JATZ0183
R540	CHIP RES. 1/10W J 2.7k Ω	RRXAJR5Z0272
R541	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R542	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R601⚠	CEMENT RES. 3W K 1.2 Ω	RW031R2PG007
R603	CARBON RES. 1/4W J 390k Ω	RCX4JATZ0394
R604	CARBON RES. 1/4W J 390k Ω	RCX4JATZ0394
R605	CARBON RES. 1/4W J 390k Ω	RCX4JATZ0394

Ref. No.	Description	Part No.
R607	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R608	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R609	CARBON RES. 1/4W J 390k Ω	RCX4JATZ0394
R610	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R613⚠	METAL OXIDE FILM RES. 2W J 0.68 Ω	RN02R68DP004
R621	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R623	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R701	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R702	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R704	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R705	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R706	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R707	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R708	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R709	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R711	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R715	PCB JUMPER D0.6-P5.0	JW5.0T
R716	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R718	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R719	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R722	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R726	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R728	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R729	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R730	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R731	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R732	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R733	CHIP RES. 1/10W J 560 Ω	RRXAJR5Z0561
R734	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R735	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R737	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R738	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R739	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R740	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R743	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R745	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R756	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R759	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R783	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R786	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R797	CHIP RES. 1/10W J 3.9k Ω	RRXAJR5Z0392
R798	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R799	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R801	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R805	METAL OXIDE FILM RES. 2W J 2.7 Ω	RN022R7DP004
R806	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R807	METAL OXIDE FILM RES. 2W J 2.7 Ω	RN022R7DP004
R808	CHIP RES. 1/10W J 2.7k Ω	RRXAJR5Z0272
R809	CHIP RES. 1/10W J 3.9k Ω	RRXAJR5Z0392
R810	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R811	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R812	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R813	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R814	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R815	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R816	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R817	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R818	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R819	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R820	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R821	PCB JUMPER D0.6-P5.0	JW5.0T
R822	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R823	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104

Ref. No.	Description	Part No.
R824	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R825	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R826	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R827	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R828	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R829	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R830	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R831	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R832	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R833	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R834	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R835	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R836	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R837	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R838	PCB JUMPER D0.6-P5.0	JW5.0T
R839	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R840	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R841	CHIP RES. 1/10W J 12k Ω	RRXAJR5Z0123
R842	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R843	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R844	CHIP RES. 1/10W J 12k Ω	RRXAJR5Z0123
R845	CHIP RES. 1/10W J 12k Ω	RRXAJR5Z0123
R846	CHIP RES. 1/10W J 12k Ω	RRXAJR5Z0123
R851	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R852	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R853	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R855	CHIP RES. 1/10W J 180k Ω	RRXAJR5Z0184
R856	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R857	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R859	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R860	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R861	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R862	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R863	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R864	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R865	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R866	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R867	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R868	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R877	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R878	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R879	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R880	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R881	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R882	CHIP RES. 1/10W J 5.6k Ω	RRXAJR5Z0562
R883	CHIP RES. 1/10W J 5.6k Ω	RRXAJR5Z0562
R900	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R901	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R905	METAL OXIDE FILM RES. 2W J 0.56 Ω	RN02R56DP004
R906	CARBON RES. 1/4W J 68 Ω	RCX4JATZ0680
R907	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R908	CHIP RES. 1/10W F 3.3k Ω	RRXAFR5H3301
R909	CHIP RES. 1/10W F 10k Ω	RRXAFR5H1002
R910	METAL OXIDE FILM RES. 2W J 1.5 Ω	RN021R5DP004
R911	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R912	CHIP RES. 1/10W F 3.3k Ω	RRXAFR5H3301
R913	CHIP RES. 1/10W F 10k Ω	RRXAFR5H1002
R914	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R915	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R916	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R917	CHIP RES. 1/10W F 820 Ω	RRXAFR5H8200
R918	CHIP RES. 1/10W F 5.6k Ω	RRXAFR5H5601
R921	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103

Ref. No.	Description	Part No.
R922	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R923	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R924	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R925	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R926	CARBON RES. 1/4W J 1.8 Ω	RCX4JATZ01R8
R927	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R928	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R929	CARBON RES. 1/4W J 1.5 Ω	RCX4JATZ01R5
R930	PCB JUMPER D0.6-P5.0	JW5.0T
R931	CARBON RES. 1/4W J 22 Ω	RCX4JATZ0220
R932	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R933	CHIP RES. 1/10W F 3.3k Ω	RRXAFR5H3301
R934	CHIP RES. 1/10W F 10k Ω	RRXAFR5H1002
R935	CARBON RES. 1/4W J 2.2 Ω	RCX4JATZ02R2
R936	CARBON RES. 1/4W J 2.2 Ω	RCX4JATZ02R2
R937	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R938	CHIP RES. 1/10W F 220 Ω	RRXAFR5H2200
R939	CHIP RES. 1/10W F 22k Ω	RRXAFR5H2202
R940	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R941	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R942	PCB JUMPER D0.6-P5.0	JW5.0T
R943	CHIP RES. 1/10W F 220 Ω	RRXAFR5H2200
R944	CHIP RES. 1/10W F 1.2k Ω	RRXAFR5H1201
R949	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R950	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R951	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R952	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R953	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R954	CARBON RES. 1/4W J 390 Ω	RCX4JATZ0391
R955	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R958⚠	CHIP RES. 1/10W F 3.9k Ω	RRXAFR5H3901
R959⚠	CHIP RES. 1/10W F 3.9k Ω	RRXAFR5H3901
R960⚠	CHIP RES. 1/10W F 4.7k Ω	RRXAFR5H4701
R961⚠	CHIP RES. 1/10W F 4.7k Ω	RRXAFR5H4701
R962⚠	CHIP RES. 1/10W F 240 Ω	RRXAFR5H2400
R963⚠	CHIP RES. 1/10W F 240 Ω	RRXAFR5H2400
R964⚠	CHIP RES. 1/10W F 240 Ω	RRXAFR5H2400
R965⚠	CHIP RES. 1/10W F 240 Ω	RRXAFR5H2400
R966	CARBON RES. 1/4W J 22 Ω	RCX4JATZ0220
R967	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R968	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R969	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R970	CARBON RES. 1/4W J 47 Ω	RCX4JATZ0470
R971	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R974	CARBON RES. 1/4W J 22 Ω	RCX4JATZ0220
R982	METAL OXIDE FILM RES. 1W J 0.39 Ω	RN01R39DP003
R985	CHIP RES. 1/10W F 330 Ω	RRXAFR5H3300
R986	CHIP RES. 1/10W F 680 Ω	RRXAFR5H6800
R988	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R992	CHIP RES. 1/10W J 27k Ω	RRXAJR5Z0273
R993	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R994	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R995	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R996	CARBON RES. 1/4W J 22 Ω	RCX4JATZ0220
R997	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R998	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R999	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R1000	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1001	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1002	PCB JUMPER D0.6-P5.0	JW5.0T
R1003	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1004	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1005	CHIP RES. 1/10W F 4.7k Ω	RRXAFR5H4701

Ref. No.	Description	Part No.
R1006	CHIP RES. 1/10W F 4.7k Ω	RRXAFR5H4701
R1007	CHIP RES. 1/10W F 2.2k Ω	RRXAFR5H2201
R1008	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R1010	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1011	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R1012	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1013	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R1014	CARBON RES. 1/4W J 27k Ω	RCX4JATZ0273
R1015	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R1016	METAL OXIDE FILM RES. 2W J 5.6 Ω	RN025R6DP004
R1017	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1018	CARBON RES. 1/4W J 47 Ω	RCX4JATZ0470
R1019	METAL OXIDE FILM RES. 2W J 12 Ω	RN02120DP004
R1020	METAL OXIDE FILM RES. 2W J 12 Ω	RN02120DP004
R1023	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1024	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R1025	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R1026	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R1027	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R1028	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R1029	CHIP RES. 1/10W F 240 Ω	RRXAFR5H2400
R1054	CARBON RES. 1/4W J 390 Ω	RCX4JATZ0391
R1710	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
	MISCELLANEOUS	
AC601⚠	AC CORD A0A0280-007	WAC0172LTE04
B10	POW HEAT SINK A7120UH	1EM423993
B11	HEAT SINK PLT ASSEMBLY L0700UZ	1EM423290
BC61	BEAD INDUCTOR FBR07HA121TB-00	LLBF00ZTU021
BC62	PCB JUMPER D0.6-P5.0	JW5.0T
BC63	BEAD INDUCTOR FBR07HA121TB-00	LLBF00ZTU021
BC65	BEAD INDUCTOR FBR07HA121TB-00	LLBF00ZTU021
BC401	BEAD INDUCTOR FBR07HA121TB-00	LLBF00ZTU021
BC602	BEAD INDUCTOR FBR07HA121TB-00	LLBF00ZTU021
CF31	CERAMIC FILTER SFSRA4M50CF00-B0	FBB455PMR004
CL1101	WIRE ASSEMBLY SW 4PIN AWG26	WX1A81N0-02A
CL1151	WIRE ASSEMBLY SENSOR 6PIN AWG26	WX1A81N0-03B
F601⚠	FUSE 4.00A/125V	PAGG20CNG402
FH601	FUSE HOLDER MSF-015 LF (B110)	XH01Z00LY002
FH602	FUSE HOLDER MSF-015 LF (B110)	XH01Z00LY002
GP641⚠	GAP. FNR-G3.10D	FAZ000LD6005
JK701	Y/C JACK YKF51-5646N	JYEJ040JC001
JK702	JACK RCA PCB S AV-4B-70HH	JXRJ010SNJ06
JK703	RCA JACK AV-4B-54H YELLOW	JXRJ010SNJ01
JK704	RCA JACK WHITE AV-4B-58H WHITE	JXRJ010SNJ04
JK705	RCA JACK AV-4A-57H RED	JYRJ010SNJ01
JK706	RCA JACK AV-4B-55H	JXRJ010SNJ05
JK707	RCA JACK AV-4B-56H	JXRJ010SNJ02
JK708	RCA JACK AV-4B-57H	JXRJ010SNJ03
JK709	RCA JACK WHITE AV-4B-58H WHITE	JXRJ010SNJ04
JK710	RCA JACK AV-4A-57H RED	JYRJ010SNJ01
JK801	MINIATURE JACK(PB FREE) CKX-035-318AZ4	JYSL010SNJ01
JS67	PCB JUMPER D0.6-P7.5	JW7.5T
JS115	PCB JUMPER D0.6-P5.0	JW5.0T
JS116	PCB JUMPER D0.6-P5.0	JW5.0T
JS121	PCB JUMPER D0.6-P5.0	JW5.0T
JS701	PCB JUMPER D0.6-P5.0	JW5.0T
JS902	PCB JUMPER D0.6-P5.0	JW5.0T
L4	SCREW B-TIGHT D3X8 BIND HEAD+	GBJB3080
SA601⚠	SURGE ABSORBER 470V+-10PER	NVQZ10D471KB
SF11	FILTER CERAMIC B SAFHS45M7VAUM01B05	FBB456LMR006
T401⚠	TRANS INVERTER ETJV26ZE11AC	LTZ3PC0MS001
T601⚠	TRANS POWER 7729	LTT2PC0KT026

Ref. No.	Description	Part No.
TP1803	PCB JUMPER D0.6-P5.0	JW5.0T
TU61	TUNER UNIT U4002AF	UTUNATSSP001

FUNCTION CBA

Ref. No.	Description	Part No.
	FUNCTION CBA Consists of the following:	----------
	CAPACITORS	
C1101	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C1102	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C1103	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
	RESISTORS	
R1101	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1102	PCB JUMPER D0.6-P5.0	JW5.0T
R1103	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R1104	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1105	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R1106	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R1107	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1108	CHIP RES. 1/10W J 2.7k Ω	RRXAJR5Z0272
R1109	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1110	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
	SWITCHES	
SW1102	TACT SWITCH SKQSAB	SST0101AL038
SW1103	TACT SWITCH SKQSAB	SST0101AL038
SW1104	TACT SWITCH SKQSAB	SST0101AL038
SW1105	TACT SWITCH SKQSAB	SST0101AL038
SW1106	TACT SWITCH SKQSAB	SST0101AL038
SW1107	TACT SWITCH SKQSAB	SST0101AL038
SW1113	TACT SWITCH SKQSAB	SST0101AL038
	MISCELLANEOUS	
BC1101	PCB JUMPER D0.6-P5.0	JW5.0T

IR SENSOR CBA

Ref. No.	Description	Part No.
	IR SENSOR CBA Consists of the following:	----------
	CAPACITOR	
C1151	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
	DIODES	
D1152	LED 333GT/E	NPHZ00333GTE
D1153	LED LTL-4214M1	NPQZLTL4214M
	TRANSISTORS	
Q1151	NPN TRANSISTOR KRC103M-AT/P	NQSZKRC103MP
Q1152	NPN TRANSISTOR KRC103M-AT/P	NQSZKRC103MP
	RESISTORS	
R1151	CARBON RES. 1/4W J 120 Ω	RCX4JATZ0121
R1152	CHIP RES. 1/10W J 330 Ω	RRXAJR5Z0331
R1153	CHIP RES. 1/10W J 330 Ω	RRXAJR5Z0331
R1156	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1157	CHIP RES. 1/10W J 10 Ω	RRXAJR5Z0100
	MISCELLANEOUS	
RS1151	PHOTO LINK MODULE KSM-712TH2E	USESJRSKK044

JUNCTION CBA

Ref. No.	Description	Part No.
	JUNCTION CBA Consists of the following:	----------
	CONNECTORS	
CN1102	242 SERIES CONNECTOR TUC-P04X-B1 WHT ST	JCTUB04TG002
CN1152	242 SERIES CONNECTOR TUC-P06X-B1 WHT ST	JCTUB06TG002

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